Textile Industries

Formerly "COTTON"

a W. R. C. Smith publication
806 Peachtree St., N. E., Atlanta, Ga.

supplement to MAY, 1954

Note: The October 1953 issue of this magazine contained a discussion by Mr. Buck of the Flammable Fabrics Act and gave a summary of Commercial Standard 191-53. This article covers the administration of the Act by the Federal Trade Commission and the interpretation of the rules and regulations which have been published by the FTC in preliminary form. Both articles will serve the reader well if kept for reference.—Ed.

Administration of the Flammable Fabrics Act, which becomes effective July 1, is vested in the Federal Trade Commission. Rules and regulations under the Act have just been published by the FTC in preliminary form. The accompanying interpretation of those rules should serve as a guide to manufacturers and others who "market or handle" textiles in meeting the requirements of the Act.

Federal Trade Commission Rules and Regulations under the

Flammable Fabrics Act

EXCLUSIVE

By George S. Buck, Jr.
Technical Director
National Cotton Council of America

REPRINTS. *Additional copies of this article are available without charge as long as the supply lasts. Address request to the Editor, Textile Industries, 806 Peachtree St., N. E., Atlanta 5, Georgia.*

Supplement to "Textile Industries" for May, 1954. Copyright 1954 by W. R. C. Smith Publishing Company.

DOES THE ACT AFFECT YOU?

YES—if you "market or handle" fabrics finished for clothing use.

YES—if you make articles of wearing apparel directly from yarns.

NO —if you manufacture yarns only.

NO —if you make grey goods only.

NO —if your goods go into non-clothing uses.

IF YOUR customers demand a guaranty to show that the fabric you furnish them is not, under the Flammable Fabrics Act, dangerously flammable, you may be able to give them one without having to make a single test on that fabric.

On the other hand, you may be required to test your fabrics periodically while in production before you can give such an assurance that your products meet the standards established by the Act.

Whether or not you have to test, how you shall test, and how you can determine whether your fabrics come within the scope of the Flammable Fabrics Act are some of the questions answered by the Federal Trade Commission "Rules and Regulations Under the Flammable Fabrics Act," promulgated in tentative form March 25. An understanding of the FTC "rules" may greatly simplify the procedures which are necessary for compliance with that new Federal law.

Where to Get FTC Rules. Copies of the 10-page preliminary FTC rules are available through the Commission. The final rules, when published, can be obtained from the Government Printing Office in Washington. Therefore, in this explanation of the FTC regulations, only the more significant sections of the complete document will be quoted.

One word of caution: the interpretations of the FTC rules given here, while based on conversations with Federal Trade Commission and Bureau of Standards representatives, *are entirely unofficial.* In addition, some revisions, mostly minor, can be expected before the final rules are published. Therefore, in case of doubt, the FTC should be consulted for clarification.

Does the Act Cover Your Fabrics? The FTC rules further clarify the scope of the Flammable Fabrics Act, as it applies to textile fabrics, with the following definition:

> Rule 1—(6) The term "textile fabric" (except those with a nitrocellulose fiber, finish, or coating) means any material subject to the Act, knitted, felted, or otherwise produced from any natural or man-made fiber or substitute therefor, or combination thereof, which is in a form or condition ready for use in wearing apparel and shall include coated fabrics.

Any material "subject to the Act" means a textile fabric defined as above (1) intended or sold for use in clothing, or (2) not specifically exempt as interlining fabric or as certain hats, gloves, or footwear, and (3) moved in interstate commerce. While the Act, as noted previously, is designed to *apply only to fabrics which go into wearing apparel, some caution should be used with goods shipped, marked, or invoiced for non-clothing uses, if the same material is also customarily used for clothing purposes.* The diversion of such goods to clothing use after shipment for another purpose might place the burden of proof on the manufacturer that the particular fabric in question, if found dangerously flammable, was not from one of his shipments for clothing use.

The phrase "in a form or condition ready for use in wearing apparel" is important. This means that the *Act applies only to finished goods, and those few types of fabrics which may find clothing use in the grey.*

Chief reasons behind this provision are (1) the intent for use in clothing is frequently not established until the fabric is finished for that purpose, and (2) the burning rate or flammability of the grey fabric, in 9 cases out of 10, is changed one way or the other by the finishing process.

Essentially this provision recognizes that the manufacturing process has not been completed until after finishing, where finishing is required for clothing use. Obviously the Act cannot apply to a semi-manufactured product.

Be certain you understand the term "intended or sold" for use in clothing. If you make a (finished) fabric intended for non-clothing use, but which is of a type commonly sold by others for clothing, the fabric you make might be considered one "sold" for use in clothing. *In such a case your best protection will be in seeing that the fabric meets the requirements of the Act.*

Can You "Market or Handle" Highly Flammable Fabrics? Rule 2 repeats the general requirements of the Act, as follows:

> No article of wearing apparel or fabric subject to the Act and Regulations shall be marketed or handled if such article or fabric, when tested according to the procedures prescribed in Section 4(a) of the Act, is so highly flammable as to be dangerous when worn by individuals.

The term "market or handle" is defined in Rule 1—(4) as follows:

> The terms "marketing or handling", (i) when applied to wearing apparel mean manufacturing for sale, offering for sale, selling, importing, delivering, or transporting; and, (ii) when applied to fabric mean offering for sale, selling, importing, delivering, or transporting.

There are certain circumstances, however, under which you may market or handle "highly flammable" textiles. First, in those cases where the material is clearly "intended and sold" for non-clothing use. Next, as provided for in the Act, when the fabric is shipped for finishing designed to reduce its flammability. Rule 14 of the FTC Regulations, Shipments Under Section 11(c) of the Act, specifies:

> The invoice or other paper relating to the shipment or delivery for shipment in commerce of articles of wearing apparel or textile fabrics for the purpose of finishing or processing to render them not so highly flammable as to be dangerous when worn by individuals, shall contain a statement disclosing such purpose.

Fabrics which don't meet the flammability standards prescribed by the Act may also be shipped for use in interlinings and in those hats, gloves, and articles of footwear not covered by the Act. This is provided for as follows:

> Rule 6—Certain Fabrics Not Subject to Provisions of Section 3 of Act.
>
> (a) Fabrics intended for processing into interlinings or other covered or unexposed parts of articles of wearing apparel shall not be subject to the provisions of Section 3 of the Act, providing an invoice or other paper covering the marketing or handling of such fabrics is given which specifically designates their intended end use.
>
> (b) Fabrics intended or sold for use in those hats, gloves and footwear which are excluded under the definition of articles of wearing apparel in Section 2(d) of the Act, shall not be subject to the provisions of Section 3 of the Act, providing an invoice or other paper covering the marketing or handling of such fabrics is given which specifically designates their intended use in such products.

Note that Rule 6 permits the shipment of fabrics which may not meet

the flammability standards, when such goods are for use in "covered or unexposed" parts of articles of wearing apparel. Authority for this provision can be found in Section 4 of the Act, and the Commission gives the further clarification:

> Rule 1—(5) The terms "uncovered or exposed part" of an article of wearing apparel as used in Section 4(a) of the Act, mean that part of such article of apparel which during normal and customary course of wear would be open to flame or other means of ignition.

Such items as sweat shirts and sweat pants, and fleece-lined underwear, would be considered uses where a napped or brushed side of the fabric is not normally exposed. Sleeve linings and trouser linings would fall into the same category. The Commission may be asked to clarify further just what coat and jacket linings could also be considered "unexposed," if any.

Undergarments, however, are not considered uncovered or unexposed, even though they may normally be worn beneath outer layers of clothing. In general, the determination is based on the susceptibility to burning of the garment, as worn by itself. This is the meaning of the following rule:

> Rule 4—Only Uncovered or Exposed Parts of Wearing Apparel to be Tested.
>
> In determining whether an article of wearing apparel is so highly flammable as to be dangerous when worn by individuals, only the uncovered or exposed part of such article of wearing apparel shall be tested according to the applicable procedures set forth in Section 4(a) of the Act.

Moral Obligation and Self-Protection. There are, then, certain circumstances under which fabrics that may be "highly flammable" can legally be marketed or handled. In some cases the FTC prescribes rules governing such transactions. In other cases, where goods are shipped for non-clothing use, or for finishing when that finishing might be expected to make the material more flammable, there is certainly some moral obligation for the manufacturer to take all reasonable precautions which would ensure against the misuse of his fabric. At the same time his best interests will be served if he can prevent his fabric becoming involved in a flammability case, even when he is not legally responsible.

Water-Soluble Fire-Retardant. The preliminary rules permit the use of a water-soluble type fire-retardant, under certain circumstances. Here again caution should be exercised in using this provision. *In any case of doubt whether an article of wearing apparel or fabric might be laundered, avoid using a fugitive fire-retardant.*

Best rule-of-thumb: use water-soluble retardants only where washing will render the fabric unusable. The fabric must still meet the dry-cleaning requirement, since the following rule eliminates only the washing part of the test:

> Rule 5—Testing Certain Classes of Fabrics.
>
> (a) Any textile fabric intended for use in, or used, or contained in an article of wearing apparel, which in its normal and customary use as wearing apparel would not be washed, need not, upon test made under the procedures outlined in Commercial Standard 191-53, be washed as prescribed by paragraph 4.5 of such Commercial Standard, provided, however, that such fabric and article of wearing apparel when marketed or handled are marked in a clear, legible and permanent manner disclosing that they will be dangerously flammable if washed. Examples of the types of fabric referred to are bridal illusion or millinery veiling.

Guaranty Clause: Section 8 of Act. This is one of the most important subjects covered by the F.T.C. rules. Note first the explanation given by the Commission.

> Rule 7—Reasonable and Representative Tests Under Section 8 of the Act.
> EXPLANATION:
>
> Section 8 of the Act, among other things, provides that no person shall be subject to prosecution under Section 7 of the Act for a violation of Section 3 of the Act if such person establishes a guaranty received in good faith signed by and containing the name and address of the person by whom the wearing apparel or fabric guaranteed was manufactured or from whom it was received, to the effect that reasonable and representative tests made under the procedures provided in Section 4(a) of the Act show that the fabric covered by the guaranty, or used, or contained in the wearing apparel, is not, under the provisions of Section 4(a) of the Act, so highly flammable as to be dangerous when worn by individuals.
>
> The furnishing of guaranties is not mandatory under the Act. The purpose of this rule is to establish minimum requirements for the reasonable and representative tests on which guaranties may be based. The making of these tests and the furnishing of guaranties based thereon will not relieve one making the tests or furnishing guaranties based thereon from prosecution under Section 7 of the Act for violation of Section 3 of the Act, nor will it relieve one furnishing or receiving such guaranties from the administrative processes of the Federal Trade Commission under Section 5 of the Act, nor from the injunction and condemnation procedures under Section 6 of the Act.

To summarize, a guaranty is designed to relieve those who market and handle textiles from endless and repetitive testing which otherwise might be required for assurance that each fabric and each article of wearing apparel meets the standards of the Act.

A guaranty *does not (1) relieve the guarantor in any way,* and (2) is not mandatory. However, in many cases fabric purchasers may ask for a guaranty. If a guaranty is given, (3) it *must* be based on "reasonable and representative tests" as prescribed by the Commission.

The minimum requirements set forth by the Commission for purposes of issuing a guaranty impose no limitation on the testing a manufacturer may wish to do to ensure against violation of the Act. That must be determined by each manufacturer (of finished textiles) on the basis of his controls and the burning characteristics of his fabrics. Undoubtedly there will be cases in which testing is much more frequent than specified by the Commission for guaranty purposes.

Provision for Class Tests. Recognizing that no one even questions the safety of many fabric types, the Commission relieved the industry from much of the testing burden by providing for "class" tests. A class test may, in some cases, cover an entire class of fabrics, and a class test may be used by anyone to whom it is

CAN YOU MARKET OR HANDLE A "HIGHLY FLAMMABLE" FABRIC?

YES—but always with caution—IF

a. - it is intended for non-clothing use.

b. - it is being shipped for fire-retardant finishing.

c. - it will be processed into exempt clothing items.

d. - it goes into covered or unexposed parts of garments.

CHECK RULES FOR MARKING PAPERS AND DOCUMENTS

appropriate group (such as the Northern Textile Association) in a bulletin available to the entire industry. Thereafter, for three months, that test may be used for guaranty purposes by anyone who markets or handles the same organdy, having the same weight and thread count, the same fiber content (cotton), and the same type of finish (permanent Heberlein). If any one of the three conditions of construction, fiber composition, or finish type should change, fresh tests must be made, unless there is available a class test to cover the changed conditions.

Some "rule of reason" should be used in interpreting the requirements of "a particular fiber composition, construction, and finish type." Fiber content should be specified generally by percentages of each fiber present; construction by weight and thread count within the tolerances usually accepted by industry for the same fabric; finish type by the types recognized by the trade as distinct classes of finish. If the burning time approaches the borderline, perhaps in the region of 4.0 to 4.5 seconds, yarn numbers should probably be added to the construction specification, and possibly more details about the finish.

If no test has been published to cover your under two-ounce fabric, either because it is a unique type, or because for some other reason testing data are not available, then *you must have your own tests made.* The requirements are exactly the same as for class tests on the under two-ounce materials. *You must renew the test* every three months for burning rates between 4 and 6 seconds, every 6 months for burning rates over 6 seconds, and the initial test will serve if the fabric does not ignite.

Requirements for Raised Fiber Surface Fabrics. Class tests are permitted for certain raised fiber fabrics, although with the exception of wool-like fibers, the classes are restricted to narrow limits of construction, fiber composition, and finish type, as follows:

> Rule 7—(3) Certain Raised Fiber Surface Textile Fabrics.
>
> (i) When a test of any raised fiber surface textile fabric which has a dense cut pile of uniform short length or looped yarns, and of a particular fiber composition, construction and finish type, does not exhibit a surface flash and does not ignite, such test shall suffice for any such fabric having a dense cut pile of the same length or the same looped yarns and of the same fiber composition, construction and finish type. Examples of the types of fabrics referred to are velvets, velveteens, velours, corduroys, and terry cloth.
>
> (ii) One test of any raised fiber surface textile fabric made entirely of protein fibers, exclusive of non-protein fiber ornamentation not to exceed 10% by weight, or one test of any particular class of such fabrics, shall suffice for any such fabric or class of fabrics.

The first paragraph (i) differs from the provisions made for sheer fabrics in that the test need not be renewed for fabrics described therein if there is no ignition in the original test. A test on corduroy, for example, will serve indefinitely for the corduroy tested, although not for corduroys having a different construction, fiber content, or finish type.

The second paragraph recognizes that wool and like fibers are naturally resistant to flame, and for all practical purposes, exempts raised protein fiber fabrics from the testing requirements. For example, one test on a wool suiting could be interpreted to be sufficient for all wool suiting fabrics, and dress fabrics of wool could be handled in the same way. Vicara and fur-fiber fabrics would qualify similarly.

All other raised fiber fabrics must be covered by tests of the guarantor. The frequency of testing is determined by the burning characteristics of the material. Therefore, if your raised fiber fabric cannot qualify for a class test described, be guided by the following sections of Rule 7:

> (2) Raised Fiber Surface Textile Fabrics.
>
> When, on the initial test of a raised fiber surface textile fabric, such fabric:
>
> (i) Falls within Class 2 as provided in paragraph 3.1.2.1 of Commercial Standard 191-53, the fabric shall be tested at least once at intervals of not more than one month while in production, or if the production exceeds 50,000 yards per month, the fabric shall be tested thereafter every 50,000 yards or fraction thereof.
>
> If, after two tests have been made as outlined above, the test results do not show the flame spread to have been less than 4 seconds, with the base fabric ignited or fused, the fabric shall be tested at least once at intervals of not more than three months while in production, or if the production exceeds 100,000 yards per three months the fabric shall be tested thereafter every 100,000 yards or fraction thereof.
>
> (ii) Has a flame spread in excess of 7 seconds with the base fabric ignited or fused, the fabric shall be tested at least once at intervals of not more than six months thereafter while in production.
>
> (iii) Has a surface flash, but the base fabric does not ignite nor fuse, the fabric shall be tested at least once at intervals of not more than six months thereafter while in production.
>
> (iv) Does not have a surface flash and does not ignite, the initial test shall suffice.

A fabric which falls within Class 2 of the Commercial Standard has a burning rate between 4 and 7 sec-

MUST YOU TEST YOUR FABRICS?

NO - if your fabrics aren't covered by the Act.

NO - if you don't give a guaranty.

NO - if your fabrics qualify under a "class test" provision, and there are reports covering those fabrics.

YES - for certain fabrics on which "class tests" cannot be used, and on which periodic testing may be required.

WHETHER OR NOT YOU TEST, YOU MUST KEEP CERTAIN RECORDS, IF YOU GIVE A GUARANTY.

CLASS TESTS MAY BE USED ON THESE FABRIC TYPES:

(1) Plain surface fabrics over 2 oz/sq yd.

(2) Certain plain surface fabrics under 2 oz/sq yd.

(3) Raised fiber types which do not ignite or flash.

(4) Raised protein fiber fabrics (example: wool).

YOU, AS GUARANTOR, MUST HAVE THESE FABRICS TESTED PERIODICALLY

(1) Sheer (under 2 oz/sq yd) fabrics not covered by a class test.

(2) Any raised fiber type which ignites or flashes during the test.

available. In other words, it covers not only the fabric on which it was made, and the guarantor who had it made, but any other person who wishes to guarantee a fabric of the same class.

The Commission expects industry groups to make class test results generally available to anyone by publication of the results in suitable periodicals and bulletins. Plans are now being completed by various textile interest organizations to collect available test results and to publish the results. Thus the giving of a guaranty will be greatly simplified for a large part of the industry by the class test procedure.

In some cases class tests cannot be used. The F.T.C. rules establish other, and generally more exacting requirements for certain fabrics considered closer to the "borderline."

Follow this procedure to see what your testing obligations may be:

Assuming that you have found that (1) your fabrics are covered by the Act, and (2) that you wish to guarantee that those fabrics meet the Act's requirements, next determine which of your fabrics fall into the various categories established by the F.T.C. rules. These are:

Rule 1—(7) The term "plain surface textile fabric" means any textile fabric which does not have an intentionally raised fiber or yarn surface such as a pile, nap, or tuft, but shall include those fabrics having fancy woven, knitted or flock printed surfaces.

Rule 1—(8) The term "raised surface textile fabric" means any textile fabric which has an intentionally raised fiber or yarn surface such as a pile, nap or tufting.

Plain surface textile fabrics are still further divided into categories of those which weigh 2 ounces or more per square yard and those which weigh less than 2 ounces per square yard. The minimum testing requirements for each category, for guaranty purposes, are then set forth, as will be shown below with examples to illustrate each requirement.

Rule 7—(a) The following shall constitute reasonable and representative tests, as that term is used in Section 8 of the Act, for those textile fabrics which by reason of their composition, construction, finish (or) weight may be tested upon a class basis.

(1) Plain Surface Textile Fabrics Weighing Two Ounces or More Per Square Yard.

(i) One test of any plain surface textile fabric weighing two ounces or more per square yard, exclusive of metallic ornamentation, or one test of any particular class of such fabrics, shall suffice for any such fabric or class of fabrics.

WHAT ABOUT THE GUARANTY?

a. - It is not required that you give a guaranty (but your customers may insist on one).

b. - If you do give a guaranty, it MUST be based on "reasonable and representative" tests.

c. - Such tests MUST meet the minimum requirements specified by the Federal Trade Commission.

d. - Giving a guaranty does not relieve you of the penalties of the Act for a violation of the Act.

Example 1: A denim of a particular construction is tested by Mill X, and the test results are made available to a cotton interest group (such as the National Cotton Council or American Cotton Manufacturers Institute) which publishes the finding in some way providing for complete circulation to the entire industry. Thereafter *any* manufacturer of *any* denim may refer to that published test as the basis of his guaranty that his denims meet the requirements of the Flammable Fabrics Act, and are not so highly flammable as to be dangerous when worn by individuals.

Example 2: A rayon broadcloth is tested by Converter Y and the results made available to any suitable agency (such as the Textile Distributors Institute or the National Federation of Textiles) which publishes the result. Thereafter anyone who manufactures a finished rayon broadcloth (over 2 oz/sq yd) may rely on that same test for guaranty purposes, even though the construction, fiber content, and finish varies from that in the published test.

The point of all this is that plain surfaced fabrics over two ounces per square yard in weight pass the test with a comfortable margin. But the Act requires that a guaranty be based on "reasonable and representative" tests. The foregoing procedure therefore has been established as reasonable and representative for such fabrics.

It should be possible, well before July 1, to have testing data published covering all classes of fabrics over two ounces in weight per square yard, having a plain surface. What constitutes a class is left up to industry to define. Probably the usual industry terminology will be used, plus certain catch-all categories for special types. Thus all of the testing specified for a major segment of textile production will be satisfied by the class test procedure.

Plain Surface Fabrics Which Weigh Less Than Two Ounces. If your fabric is a plain surface type, weighing less than two ounces per square yard, you may still be able to qualify it under a class test. The classes for fabrics under two ounces are much less broad than for the heavier types, however, because burning rate generally increases as weight decreases, and some sheer types may be close to the borderline.

Rule 7—(2) Plain Surface Textile Fabrics Weighing Less Than Two Ounces Per Square Yard.

(i) When, on the initial test of any plain surface textile fabric weighing less than two ounces per square yard, and of a particular fiber composition, construction and finish type, such fabric exhibits a burning time of between 4 and 6 seconds, both inclusive, such test may suffice for any fabric of the same fiber composition, construction and finish type. This class of fabric shall be tested at least once at intervals of not more than three months thereafter while in production.

(ii) When, on the initial test of any plain surface textile fabric weighing less than two ounces per square yard, and of a particular fiber composition, construction and finish type, such fabric exhibits a burning time in excess of 6 seconds, such test may suffice for any fabric of the same fiber composition, construction and finish type. This class of fabric shall be tested at least once at intervals of not more than six months thereafter while in production.

(iii) When, on the initial test of any plain surface textile fabric weighing less than two ounces per square yard, and of a particular fiber composition, construction and finish type, none of the specimens ignite, such initial test may suffice for any fabric of the same fiber composition, construction and finish type.

"Initial test" is defined as tests on two separate pieces of the fabric. The purpose is to increase the dependability of the classification of the fabric by burning time.

An example of how this works is as follows: A cotton lawn is given a permanent organdy finish of the Heberlein type. The finished weight is 1.6 ounces per square yard, and the thread count 88 x 80. Two tests by Mill Z, which shows a burning rate of 5.5 seconds, are published by some

onds, with ignition of the base fabric. In other words, it doesn't simply surface-flash, but is ignited throughout (or fused) by the intensity or volume of flame that develops. It is a safe fabric, but if the burning time drops below 4 seconds, it would be considered highly flammable.

Coated Fabrics. These are considered as plain surface types, and most would qualify on the over two-ounce class test provision. The exceptions are those containing nitro-cellulose, which, under a special section of the rules, are required to pass the CS 192-53 test for plastic materials. The reason is that nitro-cellulose coatings may have an inherent danger that does not show up on the textile tester in CS 191-53.

The positive ignition in the plastics method will be a better measure of hazard in such coatings, so the following rule governs the testing of such materials, and at the same time specifies that textile materials shall be subjected to the test contained in Commercial Standard 191-53.

> Rule 3—Test Procedures for Textile Fabrics and Film.
>
> (a) All textile fabrics (except those with a nitro-cellulose fiber, finish or coating) intended or sold for use in wearing apparel, and all fabrics contained in articles of wearing apparel, shall be subject to the requirements of the Act, and shall be deemed to be so highly flammable as to be dangerous when worn by individuals if such fabrics or any uncovered or exposed part of such articles of wearing apparel exhibits rapid and intense burning when tested under the conditions and in the manner prescribed in the Commercial Standard promulgated by the Secretary of Commerce effective January 30, 1953, and identified as "Flammability of Clothing Textiles, Commercial Standard 191-53."
>
> (b) All film, and textile fabrics with a nitro-cellulose fiber, finish or coating, intended or sold for use in wearing apparel, and all film and textile fabrics referred to in this rule which are contained in articles of wearing apparel, shall be subject to the requirements of the Act, and shall be deemed to be so highly flammable as to be dangerous when worn by individuals if such film or textile fabrics or any uncovered or exposed part of such articles of wearing apparel exhibit a rate of burning in excess of that specified in paragraph 3.11 of the Commercial Standard promulgated by the Secretary of Commerce effective May 22, 1953, and identified as "General Purpose Vinyl Plastic Film, Commercial Standard 192-53."

Under this procedure, the nitrocellulose containing textiles must be tested as follows, for purposes of the guaranty.

> Rule 7—(c) When, on initial test a film or a textile fabric with a nitrocellulose fiber, finish or coating, does not exhibit a burning rate in excess of 1.2 inches per second, one test each year thereafter while in production shall be deemed reasonable and representative tests for such film or textile fabric.

There are several additional testing provisions, covering miscellaneous contingencies. One of these specifies that, if any test subsequent to the initial test changes the burning category of a fabric, the testing shall then be according to the changed category. Another applies to articles of wearing apparel made directly from yarns (such as stockings) in which case the testing shall be on the basis of the fabric in such an article.

Two Types of Guaranty. The Flammable Fabrics Act provides for both separate and continuing guaranties. That means you may either (1) furnish a statement of guaranty with each order or shipment on particular items, or (2) file a continuing guaranty with the Commission covering all, or many, of your fabrics.

If you elect to use separate guaranties, the Commission suggests a form in Rule 9.

For the continuing guaranty, which must be renewed every three years, you must use the form prescribed by the Commission. That form is set forth in Rule 10, and copies will be supplied by the Commission upon request. When you have filed a continuing guaranty, you may give notice of the fact by marking your invoices or other sales documents as follows:

"Continuing guaranty under the Flammable Fabrics Act filed with the Federal Trade Commission."

Records Must Be Kept Three Years. Whether you use a separate or a continuing guaranty, you must keep records showing the basis on which the guaranty was given. If your guaranty was based on tests which you had made, the record must thoroughly identify each fabric guaranteed by fiber composition, construction, and finish type, and include a swatch of the material and the actual testing results.

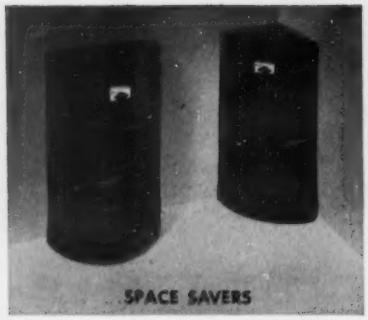
If you use class tests as the basis of your guaranty, your records must identify the class test which you used, identify the fabric guaranteed as illustrated, and show a swatch of the fabric guaranteed. The size of the swatch has not yet been specified, but probably in the case of plain surface fabrics over two ounces in weight a 2" x 2" sample would be sufficient. On any type which must be tested periodically, under Rule 7, you would do well to keep a sample large enough for a retest should any question arise. An 8" x 10" piece is suggested.

Each time a new test is required, renew the swatch and your testing record. On many fabrics, such as those over two ounces in weight with a plain surface, the original swatch serves indefinitely.

Don't Be "Stumped" By the Rules. When the final rules and regulations are released by the Commission, get a copy if you believe, from what you have read here, that you come under the Flammable Fabrics Act. The final rules probably won't differ much from those discussed here. Find out where your fabrics stand and when you can get class test reports if your fabrics fit the class test categories. If not, decide whether to test your own fabrics, or to have them tested commercially. Check on what guaranty forms to use, and what, if any, obligations you have on marking invoices or other sales documents.

Most of the trade associations and interest groups have worked with the Commission and understand the requirements of the Act and FTC rules thoroughly. Probably your own interest organization can answer all of your questions. If not, the Commission itself can. You will find, in all probability, that living under the Flammable Fabrics Act is not nearly as complicated or difficult as you first thought.

REPRINTS. *Additional copies of this article are available without charge as long as the supply lasts. Address request to the Editor, "Textile Industries," 806 Peachtree St., N. E., Atlanta 5, Georgia.*

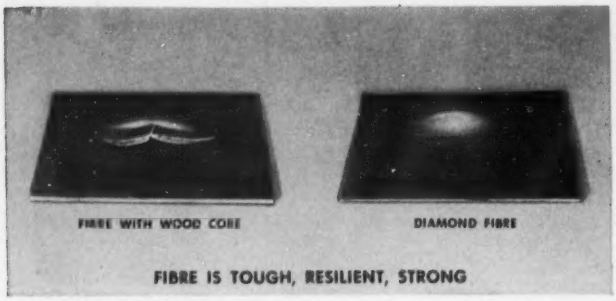


Light in weight, easy to handle, easy to keep clean. C-D-F builds waste barrels, with or without casters. Reinforced metal handles. Kick bands can be furnished in metal or fibre. A good way to improve mill housekeeping is with these new half and quarter round cans. They save floor space, fit snugly against walls and corners. Remember, C-D-F can supply special fibre receptacles in any quantity, with top quality construction.

Nothing can be stronger, tougher, yet smoother than a C-D-F Roving Can! They stand up, stand out for years of reliable service. Smooth, seamless uniformity . . . from one sample can to a carload. Metal top rim is 16 gauge steel, rust resistant plated. Smooth and snugly fitted around can. Galvanized metal bottoms for longer life. Good stocks are at the C-D-F Spartanburg, S. C. plant.

Running synthetics? A rolled fibre top rim eliminates static charge.

A variation is a fibre top rim, turned and reinforced with a heavy wire ring.



You will look a long time to get a material that can take impact better than old Diamond Vulcanized Fibre, the father of all plastics. Fibre is half the weight of aluminum . . . workers do not push or lift useless weight. It will not crack or shatter under heavy impacts. It is smooth surfaced and resists water, oil and grease.

These C-D-F quality-built trucks last and last and last. Built to fit your dimensions, to fit the needs of your mill. Top rims have no overhang to snag elbows or materials. Centerband is curved to push away from spinning frame. No skimping on rivets. Smooth surfaces inside and out.

C-D-F builds and sells DIAMOND FIBRE RECEPTACLES

to move materials fast and safe...to last for years!

Looking for a big, reliable source of supply for your mill's requirements in roving cans, fibre trucks, barrels, waste cans? Think first of C-D-F, one of the world's largest manufacturers of quality vulcanized fibre with a separate division making a full line of fibre receptacles.

Here's the way C-D-F does business with you. From our receptacles catalog you get a good idea of the completeness of our products. Then you call the C-D-F sales office listed on the back cover.

C-D-F WORKS WITH YOU

A well-trained C-D-F sales engineer contacts you, works with your plant or maintenance engineer, studies your problem carefully. If you are in the market for Spartan Fibre Trucks, he checks the width of post alleys, the height of the ring rail and other limiting factors. He knows cotton . . . finds out the number and length of bobbins, the diameter of the spinning ring, how many bobbins must be doffed.

A BIG, RELIABLE SOURCE

Your order or problem is sent to C-D-F Bridgeport's Receptacles Division, where it is checked for the strongest, lowest cost method of construction. Quality hardware, the best in casters, all metal rust-resistant rims are used by C-D-F craftsmen. Deliveries are good.

C-D-F makes its own vulcanized fibre, so selection of uniform, top grade sheets is simple. We are sure of the source of supply . . . it's next door, inside the family.

Get started on the road to better receptacles buying. Call on C-D-F, write for that big catalog. For whatever you need to move or store materials fast, safe, economically, C-D-F can make for you, from genuine Diamond Vulcanized Fibre.

CDF *Continental-Diamond Fibre*

CONTINENTAL-DIAMOND FIBRE COMPANY

NEWARK 11, DELAWARE

AMANTHRENE* VAT COLORS
provide the answer to the demand for
better color fastness in textiles.

New Improvements!
Now better than ever!

Amanthrene

in paste or powder form

A complete range of superior VAT COLORS

Particularly recommended for PRINTING fine cotton and rayon dress fabrics and draperies. Unequaled for all around fastness to washing, chlorine or peroxide bleaching and soda boiling.

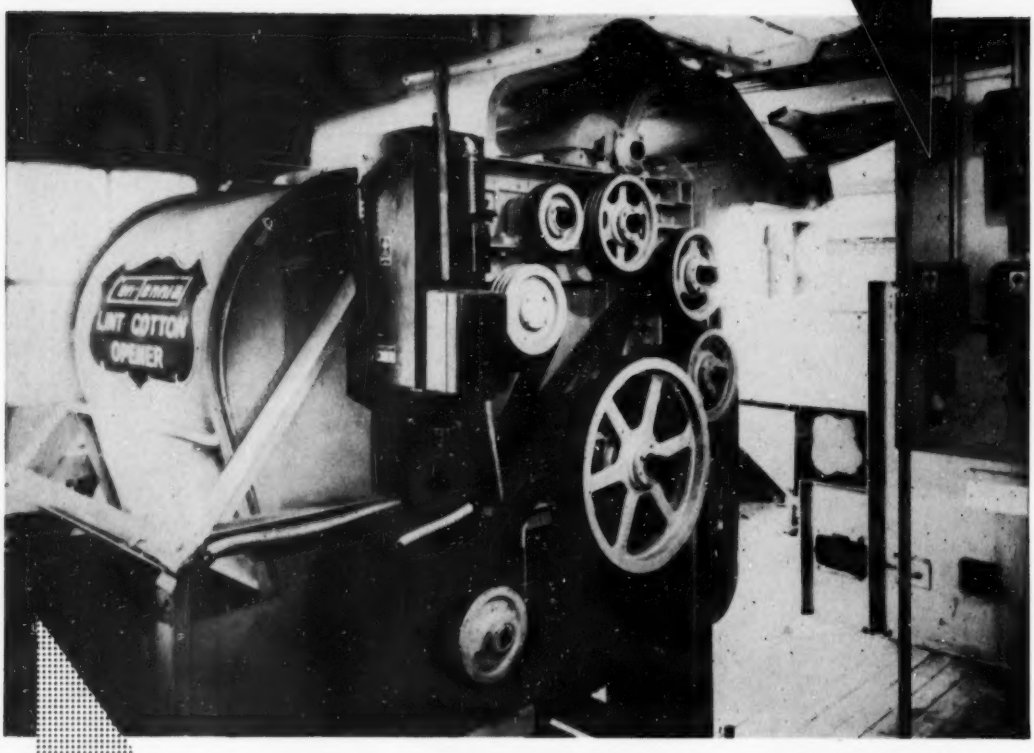
Pleasing in their self-shades . . . fully satisfying in combinations. Naturally, the AMANTHRENE colors are equally well suited for DYEING cotton and rayon fibers.

A.A.P. technicians will be happy to demonstrate any of the AMANTHRENE range in your plant. For detailed information on the complete range available, as well as data regarding your individual requirements, consult our nearest branch.

AMERICAN ANILINE PRODUCTS, INC. 50 Union Square, New York 3, N. Y.
Plant: Lock Haven, Pa. • **Branches:** Boston, Mass. • Providence, R. I. • Philadelphia, Pa. • Paterson, N. J.
Chicago, Ill. • Charlotte, N. C. • Chattanooga, Tenn. • Columbus, Ga. • Los Angeles, Cal.
Dominion Anilines & Chemicals, Ltd. • Toronto, Canada • Montreal, Canada

*Reg. U. S. Pat. Off.

CEN-TENNIAL IN ACTION AT WEST BOYLSTON...



CEN-TENNIAL TEXTILE FIBER OPENER!

West Boylston Manufacturing Company, Montgomery, Alabama, manufacturers of quality yarns, is another mill which has installed CEN-TENNIAL TEXTILE FIBER OPENERS.

Always an organization with an eye toward more efficient operation, the management at West Boylston installed CEN-TENNIAL OPENERS as a means of materially reducing fiber waste and improving quality of yarn.

West Boylston has equipped all of their opening lines with the CEN-TENNIAL OPENER as a result of the efficiency of the initial installation.

The CEN-TENNIAL OPENER can save waste and save dollars for you, too, no matter what system your mill is running. It opens, cleans and blends cotton, wool and synthetics. Inquire for further information today, using the postage-paid reply card on page 184.

CEN-TENNIAL
COTTON GIN COMPANY

Columbus, Georgia

News in Brief

To Lease Machinery. Rental to mills of its line of weaving machinery, pin drafters, and Pacific converters has been announced by Warner & Swasey Co. Decision to rent textile machinery follows similar plan initiated by company last December for its line of machine tools. Three seven-year rental plans are available; the mill may elect to buy at the end of any year.

Two new plans making possible the immediate acquisition of modern winding and twisting machinery without financial burden to the purchaser have been announced by Universal Winding Co. A pay-as-you-profit plan permits deferred payments spread over a period extending as long as seven years. A five-year lease plan permits renewal of lease or purchase of the machinery at its then fair market price at the end of the term.

Foreign Imports Grow. The growing threat to the electrical manufacturing industry from Government purchases of foreign-made power equipment in this country was outlined in a recent letter to stockholders, by Gwilym A. Price, president of Westinghouse Electric Corp. In 1950, contract awards to foreign manufacturers were only 11.3% of the dollar amount awarded to American companies; by the end of October, 1953, this had increased to 62.5%. During the last two years, Westinghouse alone lost close to $8 million of such orders because of lower bids by foreign producers [also see page 125].

New Finishes for Acetate. New silicone resin finishes, either alone or in combination with other resins, are reported to give considerably increased abrasion resistance to spun acetate fabrics, in some cases more than 350% over the raw fabric. Other advantages claimed are improved crease resistance, water repellency, increased dimensional stability, and improved sewability. Application is on standard finishing equipment by conventional methods.

Copyright for Textile Designs? The question of copyrighting textile designs may be reopened as a result of a recent Supreme Court decision. The Copyright Office, in its regulations, specifically states that woven fabrics are examples

Why Executives Fail

Most executives fail because they are not active, creative, imaginative individuals, Morris I. Pickus, president of The Personnel Institute, Inc., declared recently at a luncheon meeting of the Synthetic Organic Manufacturers Association at the Hotel Commodore, New York City.

The difference between a $10,000 a year man and a $40,000 a year man, said Mr. Pickus, is that the $40,000 man has the ability to accept heavy responsibility without undue anxiety, the capacity to make sound judgments under pressure with no panic or aggression, and the ability to get things done with the help of others.

He proposed this four-step approach to management development:

(1) Start at the top level. Figure out a plan that will create in an "entrenched" $50,000 a year vice-president a keen desire to improve his job performance and eliminate some of his bad habits.

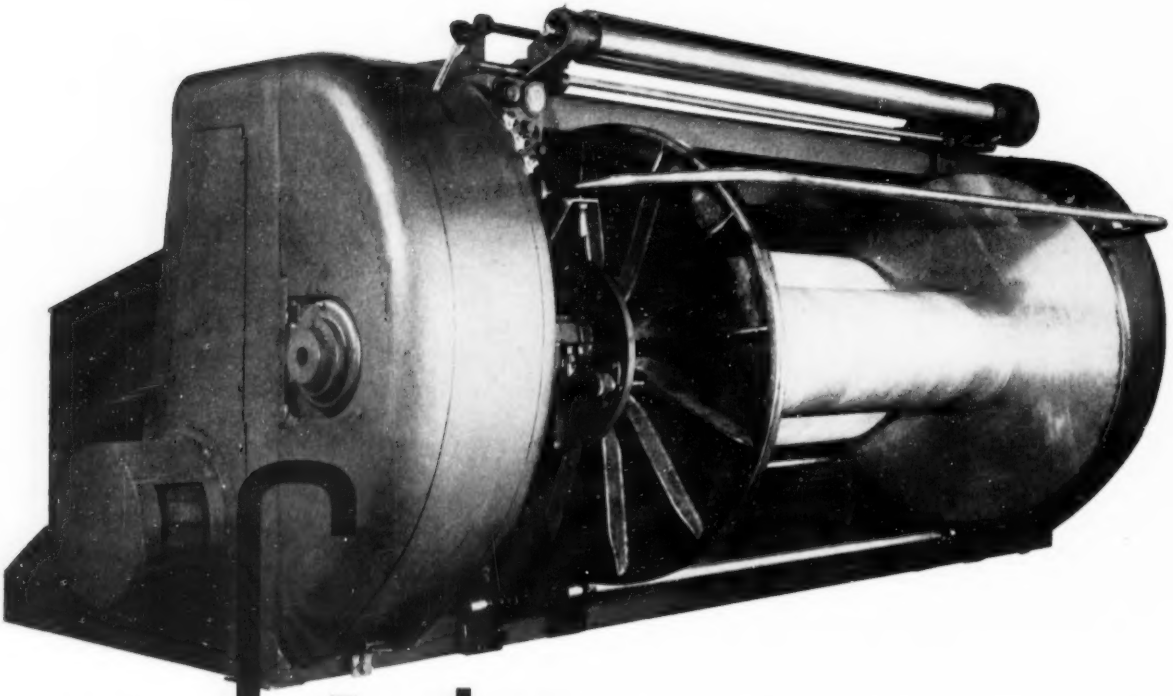
(2) Approach the executive as an individual. A good executive development program must write a specific prescription pointing out the executive's areas of strength and how they can be further developed, as well as his areas of weakness and how he can minimize them.

(3) Develop a follow-through program that will see to it that the executive takes the prescribed "improvement medicine" regularly and continuously.

(4) Set up a specific improvement program for each individual's job performance. Each year, review the program with the individual and determine in dollars and cents the value of the project that the executive has completed.

Such a program meets the individual needs of the executive and the practical profit-producing needs of the company, Mr. Picus declared.

Executives should be developed and trained while they work, the speaker said. In many companies, he declared, it is impossible to send executives away for special training. An executive development program could be installed without taking the executive away from his office, he said. A staff specialist would be required to consult with the executives involved at monthly intervals.



Cocker High Speed Warper for Cotton

New

New

New

Special Features

Spindle Driven Driving from both ends of beam insuring even distribution of load in starting and stopping.

Patented Air Doffing.

Control of Density of yarn on beam at all times, through air operated pressure roll.

Patented differential constant yarn speed control.

Operating speeds up to 1000 yards per minute.

Beam flange diameters up to 40 inches.

Any operating speed selected—by setting convenient rheostat control.

Gradual acceleration from crawl to operating speeds.

Powered by 10 H. P. DC motor and generator.

Individual braking of beam pressure roll and carrier roll by means of Rheostat Control.

Standard equipment on all Machines—Pre-determining Counter Clock, Electric Speed Indicator, and Combs.

Write or wire for further information.

THE LEADER COCKER AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

of artistic works which are not copyrightable. New decision states that an article, otherwise eligible, is not barred from registration because of intended use in industry. The Copyright Office does not agree that decision makes textile designs copyrightable, but a new study of the question will probably be made.

Plastic Shuttles Coming. A practical molded plastic shuttle may be available very soon, according to F. M. FitzGerald, director of research for the Draper Corp. Extended mill trials of shuttles molded from impregnated fabric and from flock and rag-filled resins indicate that these shuttles will run better and longer than those of existing woods; they are also less accident-prone, and fittings remain tight because the plastic shuttles are not subject to moisture changes.

Models Choose Pastel Nylons. Pastel colors in nylon hosiery were chosen in a ratio of four to one over neutral shades by a group of New York models, according to a recent survey. Pastel shades subtly complement the rest of their costume, the models gave as the reason for their choice.

Elasticized Dacron and Orlon? Prompted by the success of stretchable nylon yarns, studies are being made of the possibility of elasticizing Dacron, Orlon, Dynel and other spun fibers by the "Stretchspun" process, according to Ralph Tager of Associated Spinners, Inc. The research may later be extended to include cotton and wool.

New Dormitory at PTI. A new dormitory to house 150 students will be built on the campus of the Philadelphia Textile Institute with a $600,000 loan from the Housing and Home Finance Agency. Occupancy is scheduled for the fall semester, 1955.

Safety Contest Impresses Public Officials. One result of good public relations on the part of mills in Alabama, and proper handling of the statewide textile safety contest, is that public officials recognize the textile industry is not a hazardous one in which to work.

Cotton-Nylon Sheets. A type 180 fitted sheet of a cotton-nylon blend will be offered in white and pastel colors by J. P. Stevens & Co. Initial deliveries are scheduled for early summer.

New Textile Committee for New England. Governors of the six New England states have authorized a $10,000 appropriation, shared among the states, for the creation of a permanent New England Textile Committee. Avowed purpose is to "retain and strengthen the New England textile industry."

Men's Snuggies. Two sizes provide a complete size range in the men's briefs in white Helanca nylon now offered by Wilson Bros., Chicago. The briefs are full-fashion knitted, with elastic waistband.

Barotor Licenses. Royalty-free licenses will be granted for the manufacture of the Barotor, pressurized fabric-dyeing machine for dyeing the newer man-made fibers, Du Pont announces. An improved design of the Barotor has been put

Everybody Had Fun in Biloxi!

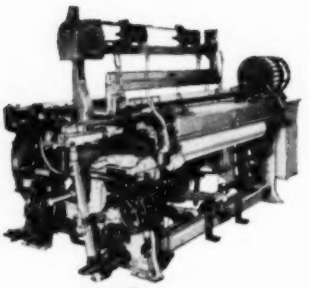
When members of the Alabama Cotton Manufacturers Association convene for their annual meeting, they take up a lot of pressing business — but they also have a lot of fun.

Each year they participate in some type of costume ball. This year it was a "Heart's Desire" affair — with members dressing as the person or couple they'd like to be. Everybody had a good time.

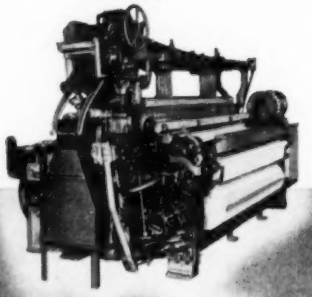
Costume winners were Mr. and Mrs. Tom Russell of Russell Manufacturing Company, Alexander City, Ala., who were "angels for a night."

DRAPER

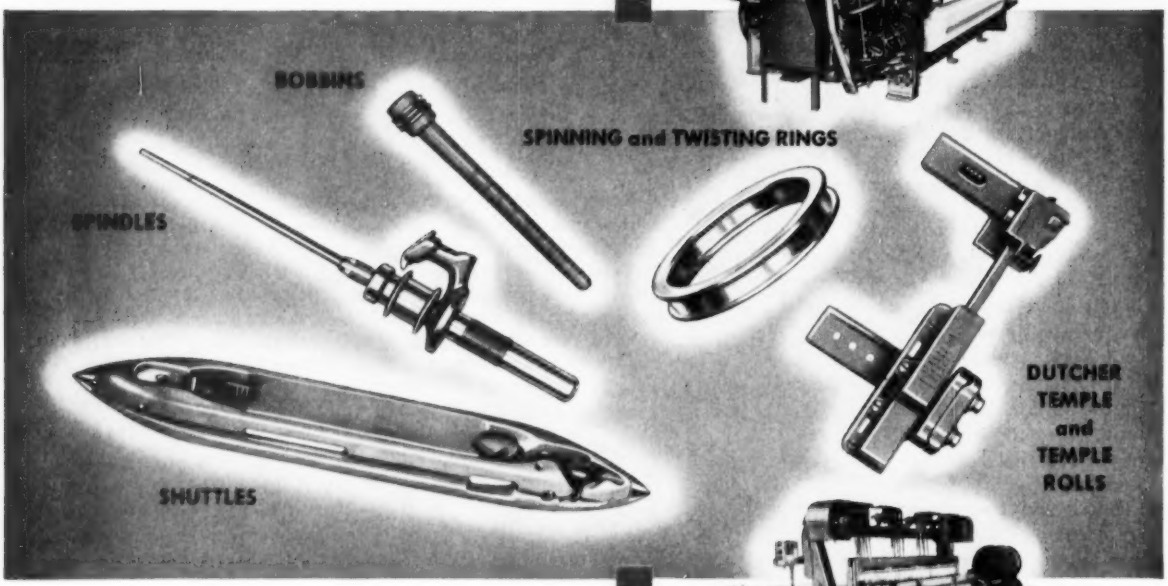
Outstanding Products ... Impressive Results!

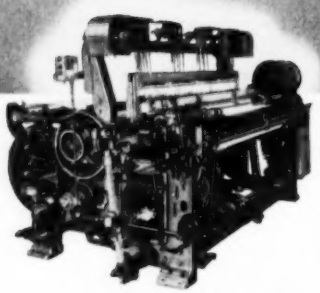


MODEL X-2

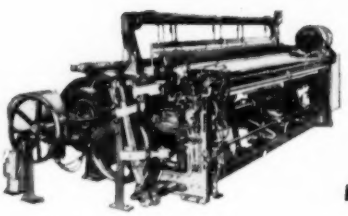


MODEL XD





MODEL XP



MODEL XL

Since 1816, Draper products have been famous throughout the textile industry. Draper looms have set world-wide weaving standards for single shuttle and filling-mixing looms.

Draper parts, mechanisms, and mill supplies are designed and manufactured to help your looms achieve the goal of "Weaving more and better cloth at less cost."

"Retaining Leadership through Research"

DRAPER CORPORATION

HOPEDALE, MASS.

ATLANTA, GA. GREENSBORO, N.C. SPARTANBURG, S.C.

THE WORLD'S LARGEST MANUFACTURER OF AUTOMATIC LOOMS

into operation at the Waldrich Co., dyers and finishers, Delawanna, N. J. James Hunter and Wiesner-Rapp displayed their versions of the Barotor at the recent American Textile Machinery Exhibition.

Chemical "Rivets" Strengthen Glass Laminates. New chemical finishes for the glass fabric "backbone" of laminated plastics, recently developed by the Naval Ordnance Laboratory, Silver Spring, Md., will virtually "rivet" the glass to the plastic material. These finishes, still in the experimental stage, and known as chlorosilane compounds, react chemically with both the glass and the plastic resin, with the result that the plastic is tightly bonded to the glass.

Scholarships at PTI. A national scholarship program offering 18 full tuition four-year scholarships for high school students has been announced by the Philadelphia Textile Institute. The scholarships, worth $1,800 each, are to be awarded on the basis of four geographic regions. Details are available from Donald B. Partridge, dean of students at the school, School House Lane and Henry Avenue, Philadelphia 44, Pa.

Experimental 10-Denier Yarn Offered. A small experimental poundage of 10-denier monofilament nylon yarn for use only by mills running 72 and/or 75-gauge knitting machines will be produced by Du Pont. None of the yarn will be offered to seamless hosiery mills at present. If results are favorable, commercial production will come late in the year.

Busy Year for Better Business Bureaus. Inquiries and complaints handled by the Better Business Bureaus in 97 cities in the United States and Canada reached a new high in 1953, while the number of advertisements requiring investigation and action reached a new post-war low. Greatest single activity of the Bureaus during the year was combating "bait" advertising practices. Heaviest volume of questionable advertising occurred in women's apparel, home appliances, furniture and rugs, television sets, automotive, jewelry, and men's apparel, in that order.

Outlook Encouraging for Cotton Exports. Foreign demand for American cotton during the 1954-55 marketing season will be at least 4 million bales and might rise to 4.5 million bales, according to the National Cotton Council. By the end of this year, stocks in free foreign countries will be down to the lowest level in many years in relation to consumption.

New Textile Lab at MIT. The Charles T. Main Textile Research Laboratory has been dedicated at the Massachusetts Institute of Technology. Work at the lab will center about the evaluation and understanding of fiber, yarn, and fabric properties and end use behavior, with primary emphasis on the applied mechanics and microscopy of textile structures and on quality control.

Carpet Production Up. Production of wool and blended carpets and rugs during 1953 increased 8% over 1952 production, according to the Carpet Institute. A total of 66.8 million square yards were produced in 1953, compared with 62.1 million square yards in 1952.

Everybody Talks About It. Long range weather prediction services for business and agriculture are offered by a new firm, Weather Trends, Inc. The company will provide long range forecasts for companies in the industrial, agricultural, and soft goods fields where weather information is necessary to planning. But no one has yet come forward to do anything about it.

Loom Stop Recorder. Patent application has been made by William P. Patterson, Anderson, S. C., for an attachment for textile machinery, which will accurately record the number of times the machine is stopped for different causes during a selected time interval. The device maintains separate records for the various automatic stop motions which may be on the machine, as well as for manual stops.

Two-Week Wool Course. Lowell Technological Institute Summer School Division will feature a woolen yarn manufacturing course

News in Brief

as part of its professional development program this year. This course, sponsored by Davis & Furber Machine Co., will be given at the Institute for a two-week period, June 14-25. Designed for management trainees, supervisory personnel, etc., the curriculum includes maintenance, work loads, and quality control methods, as well as fundamental and latest developments in both equipment and practices of yarn manufacture. Tuition charges will be provided by Davis & Furber. For applications or information, write Russell L. Brown, Lowell Technological Institute, Lowell, Mass.

Textile Degrees in Canada. The Textile Technical Federation of Canada has gone on record as favoring the creation of educational facilities to enable students to obtain a degree in textiles through a Canadian university. It is believed that this would immeasurably benefit the Canadian textile industry as more and better qualified personnel would inevitably become available.

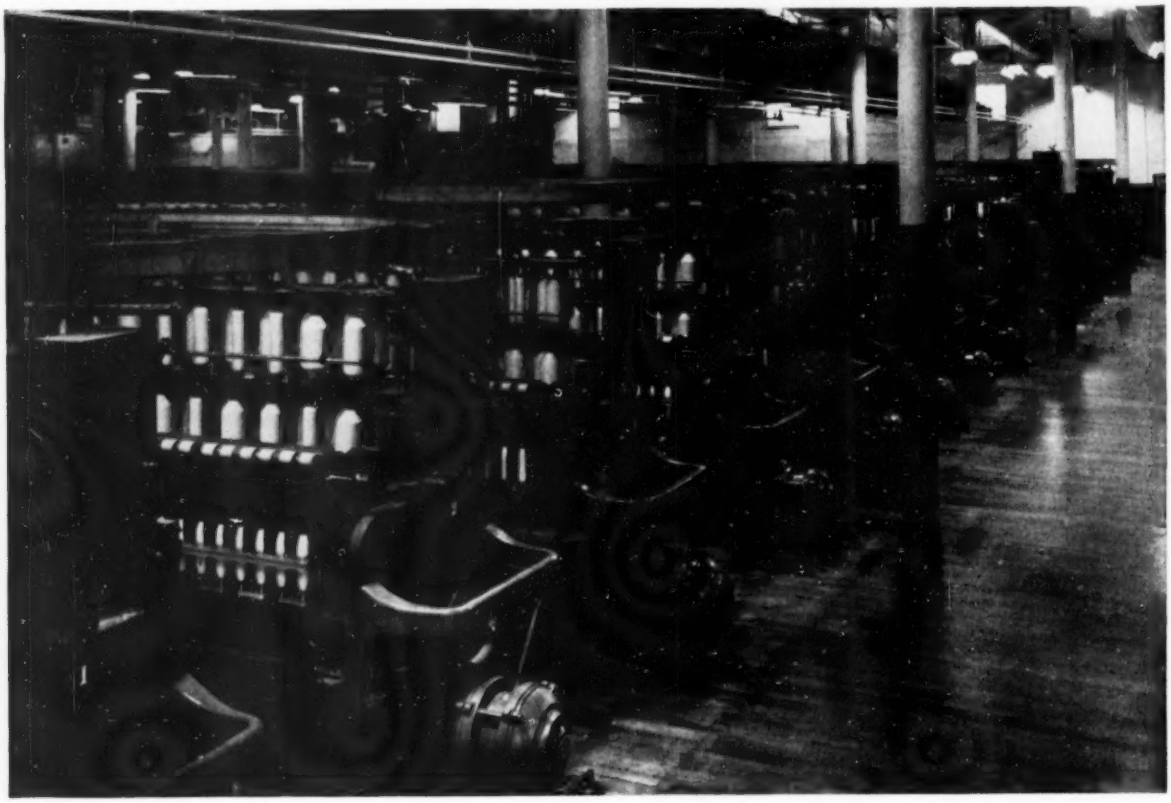
Methods Improvement Contest. The Industrial Management Society is now accepting entries for its Fourth Annual Methods Improvement Contest, to be held in conjunction with the Time and Motion Study and Management Clinic, November 10, 11, and 12, 1954. Industrial plants and student groups are invited to submit entries. Details are available from the Society, at 35 East Wacker Drive, Chicago 1, Ill.

Nep Counting Made Easier. A mechanical method of preparing samples of cotton for making nep counts has been developed at the Textile Research Institute, under USDA sponsorship. The method, based on the USDA-type fiber blender, is applicable to bulk cotton, waste, sliver, and roving. By this method, six nep counts can be made on one sample in about 30 minutes, and indications are that even fewer counts may be representative enough.

(Continued on page 155)

How do you modernize your textile mill?

You do what Monarch Mills did at their Ottaray plant in Union, South Carolina. Monarch added Carrier refrigeration to the evaporative cooling system installed when the mill was modernized in 1948. ▪ Now a 433-ton Carrier Centrifugal Machine provides chilled water for complete air conditioning in the carding, spinning and cloth rooms. The original air conditioning system distributes conditioned air to both floors of the 120,000-square-foot cotton mill. ▪ The modernized system maintains a constant, year-round 80-degree temperature—keeps relative humidity in the carding and spinning rooms between 50% and 60%; and in the cloth room at 65%. ▪ What results can *you* expect from air conditioning with



refrigeration? These: (1) Fewer ends down (50% less in some cases). (2) Higher spindle speeds are practical. (3) More sides per spinner with less worker fatigue. (4) Quality is increased, too. ▪ You'll find that uniform climate in *your* mill increases the efficiency of men, materials and machines. And the way to get uniform weather inside any mill, in any season, is to install modern Carrier air conditioning *with* refrigeration. Or add Carrier refrigeration to your present evaporative cooling system. ▪ For a free copy of the informative booklet, "Air Conditioning for the Textile Industry," call your nearest Carrier office. Or, if you wish, write directly to Carrier Corporation, Syracuse, New York.

Carrier

air conditioning
refrigeration
industrial heating

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Figures Prove Feast or Famine

TRYING to find out what is happening to the broad textile industry today is just about one of the most difficult jobs you can undertake because there are several thousand mills in the industry and they are scattered from here to yonder. One good way—and a means we have been using for years—is to talk to suppliers who call on the mills and listen to what they have to say about conditions, and to as many mill men as can be contacted. We have been doing that same thing over the past few weeks but finally it got too much for us. We just could not stand the tears any longer.

Certainly, conditions are far from good in the textile industry but the surprising thing is that there are a few bright spots and that it is awfully difficult to make a flat statement that will apply to all mills, on all types of goods, and in all parts of the country. Nevertheless, it is the personal opinion of this writer that before this industry comes out of this particular wringer we are going to lose a couple of spindles. As we have pointed out before, of course, we have been losing almost 500,000 spindles a year for a number of years.

Production Holds Up

It is fairly definite that in spite of a rather difficult time for the last several years production of textiles has held up exceptionally well. Figures on cotton consumption, spindle and loom activity, and the quarterly Census figures on the production of broad woven goods, woolen and worsted loom activity, and hosiery, all bear out that production has been at a rather high rate. However, figures from governmental sources always lag several months behind and it is our guess that there is more curtailment in the first quarter of 1954 than in any similar quarter for a number of years. Be that as it may, however, the level of production is not now and never has been the standard for measuring the health of an industry. As a matter of fact, it may be just the reverse because heavy production in the face of a weak market is not necessarily good business.

Going back a year or two, the figures show that the pace really began to tell about the third quarter of 1951. You will recall that about that time there was a complete collapse of textile prices, and profits after taxes dropped to the alarmingly low figure of 1.6% of sales.

Not very much, however, happened to production. There was a decline in spindle activity and cotton consumption but the decline was from the abnormally high period of 1950 which came about as a result of the outbreak of the Korean War. What we were really doing was getting back to something closer to normal operating schedules. The same was not true of profits, however.

The Profit Story

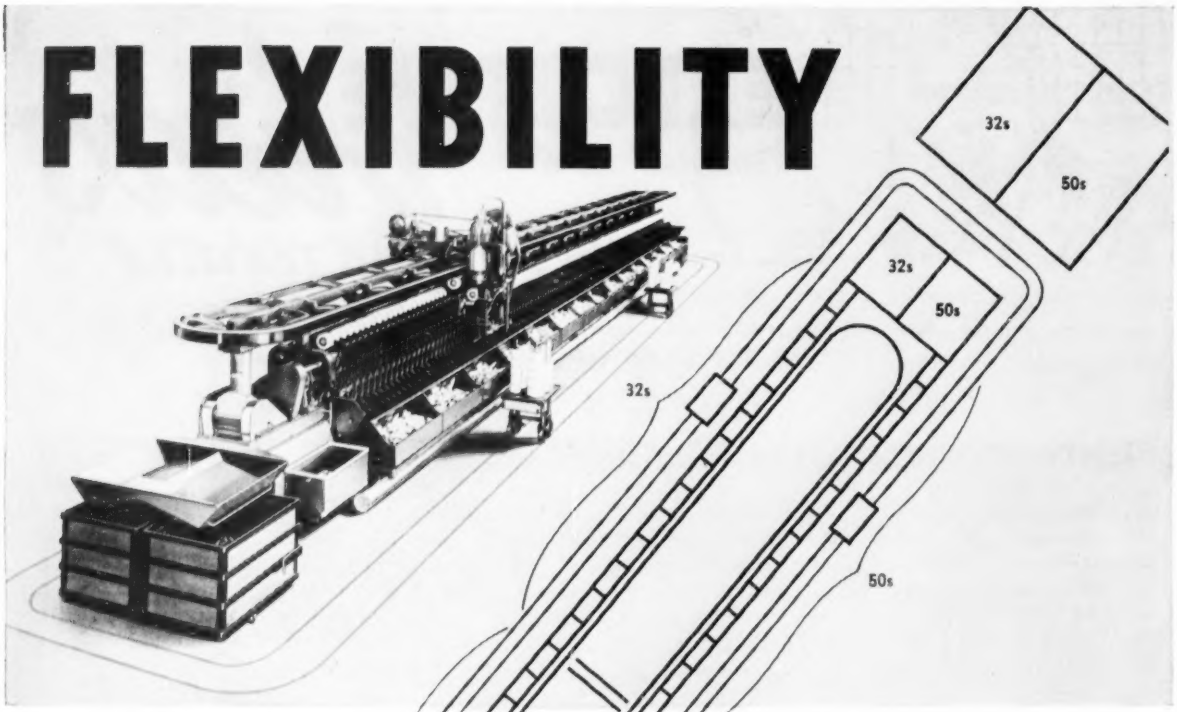
The textile industry has always been a sort of "feast and famine" industry and, as long as we have known anything about it, has been subject to economic ups and downs. Perhaps this is because it is so close to the ultimate consumer and is one of the first to feel the pinch of hard times.

So far, we have not experienced anything like the great depression of the 1930's, at least not from the standpoint of length of duration, and certainly we have not experienced anything like the three terrible years of 1930, 1931, and 1932. In those three years the textile industry lost the amazing sum after taxes of $844,000,000. That was the combined deficit for those three years.

Nevertheless, 1933 is still remembered by most of us as being a particularly difficult year, and the profit rate on sales after taxes for the textile industry was 1.6 for that year. This is exactly the same figure which was "achieved" in the third quarter of 1951. As a matter of fact, beginning with the third quarter of 1951 and going through the third quarter of 1953, the latest period for which figures are available from federal sources, not a single quarter has gone higher than 2.7% of sales after taxes. By way of comparison, prior to 1951 not a single quarter in many, many years has been lower than 2.7% and only one quarter has been that low.

Looms and spinning frames are not bought from *production schedules* and neither are brick and

FLEXIBILITY



BARBER COLMAN

BARBER-COLMAN 4-COUNT Automatic Spooler

Do YOU know that . . .

★ This machine runs FOUR DIFFERENT COUNTS *at the same time.* Each is separate and distinct, handled on a separate "quarter" of the machine. There is no chance of mixing counts or bobbins.

★ Sorter tables are at *both ends* of the machine, with only one count in each half.

★ Trident tables are at *both ends* of the machine, divided so counts are separate.

★ There are separate operator trucks for each count, one truck for each "quarter" of the machine.

★ Conveyors are split, delivering toward both ends from the center of each side, so that empty and part-empty bobbins are automatically delivered to the correct sorter table.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. — GREENVILLE, S. C., U.S.A. — MANCHESTER, ENGLAND — MUNICH, GERMANY

INDIA
Batliboi & Company
Forbes Street, Fort
Bombay, India

MEXICO
J. Rabasa
Isabel la Catolica 45-813
Apartado 7348
Mexico D.F., Mexico

BRAZIL
Quimanil S.A. Anilinas
e Representacoes
Rua Glicerio 537/547
Caixa 5858 e 3431
Sao Paulo, Brazil

JAPAN
Nanko Bussan K. K.
Sampin Building
Kitakyutaro-machi 3-chome
Higashi-ku, Osaka, Japan

MIDDLE EAST
Arlind Corporation
65 Bedford Street
Stamford, Connecticut

mortar. Capital improvements come out of profits, and when profits are slim for too long a time an industry stagnates and portions of it die. The textile industry has spent enormous amounts on modernization and expansion since the end of World War II, but some of the financial statements of the textile machinery firms which have recently been released indicate that not enough machinery has been sold in the last twelve months to even get mildly excited about.

Mill Margins

Another pretty good yardstick to use in measuring the health of the textile industry is the mill margin. This, as you will recall, is simply the difference between the price of certain cotton cloths and the price of the particular grades and staples of cotton which the Department of Agriculture feels are used in the manufacture of those goods. At this writing, the latest figures available from the Department of Agriculture are for the month of February 1954, and they show that the mill margin stood at 27.18 cents at that time. By way of comparison, and picking out some of the peak years in the last decade (these are crop years ending July 31), we find that the average margin for 1948 was 56.80 cents, for 1950 it was 46.66 cents, and even going back as far as 1942 it was 20.55 cents.

In this discussion, the reader should keep in mind that from the mill margin the mill must pay all other elements of cost in addition to the cost of raw cotton. In short, the mill must pay wages, taxes, upkeep, its interest on borrowed money, and dividends to stockholders, if any. Using the foregoing figures, we see that in 1942 a mill had 20.55 cents per pound of cotton to pay all these items. But what were textile wages in 1942? In the cotton textile branch of the industry they averaged about 55 cents an hour in 1942, as compared with $1.30 an hour today.

You know, of course, what has happened to taxes and all other costs since 1942 so we need not belabor that point.

The real crux of this matter is that the margin is terribly small today when we consider that everything which the mill must pay for out of this margin, especially wages, has been going up steadily for many years.

It certainly is true that a number of mill statements which recently have been published, for example that of the Kendall Company, Pacific Mills, Burlington, and a few others, have shown a reasonably favorable picture. The Dan River statement showed net earnings after taxes almost twice as high this year as last year. Nevertheless, these are the statements of the very large companies, the companies which for the most part are listed on the New York Stock Exchange, and you do not find out what is really happening in textiles until you begin to talk

to the people who operate small yarn mills, small integrated mills, hosiery, wool, knitting, weaving plants, etc. Additionally, some of the good statements we are seeing in the papers these days have been brought about by special situations which have nothing to do with whether the textile business is good or bad.

By way of review, it seems to us that no one need get so disturbed about the textile industry as to start jumping off the roofs of skyscrapers, but certainly all the figures we have seen indicate that

(Continued on page 158)

May 6-7—Second annual southeastern conference, **Society for Advancement of Management,** Battery Park Hotel, Asheville, N. C. Theme: "Participation—A Tool of Management."

May 6-7—Annual meeting, **Underwear Institute,** Hotel Roosevelt, New York, N. Y.

May 7-8—Semi-annual convention, **National Association of Woolen and Worsted Overseers,** Hotel Manger, Boston, Mass.

May 8—Spring meeting, **Textile Operating Executives of Georgia, A. French** Textile School, Georgia Institute of Technology, Atlanta, Ga.; topics: carding and spinning.

May 14-15—Summer outing, **Southeastern Section, AATCC,** Radium Springs, Albany, Ga.

May 19-20—100th Anniversary Celebration of **The National Association of Cotton Manufacturers,** Somerset Hotel, Boston, Mass.

May 27-29—Annual convention, **South Carolina Textile Manufacturers Association,** The Cloister, Sea Island, Ga.

June 10-12—Annual meeting, **Southern Textile Association,** Ocean Forest Hotel, Myrtle Beach, S. C.

June 11—53rd annual **Alumni Reunion of Philadelphia Textile Institute,** Manufacturers Golf and Country Club, Oreland, Pa.

June 13-18—Annual meeting, **ASTM** (11th Exhibit of Testing and Scientific Apparatus and Laboratory Supplies and 9th Technical Photographic Exhibit). Sherman and Morrison Hotels, Chicago, Ill.

Sept. 9-12—Fourth **Canadian Textile Seminar,** Queen's University, Kingston, Ontario, Canada.

Sept. 13-14—Fall meeting of **The Fiber Society,** McGill University, Montreal, Canada.

Sept. 15-16—National convention, **American Association of Textile Chemists and Colorists,** Biltmore Hotel, Atlanta, Ga.

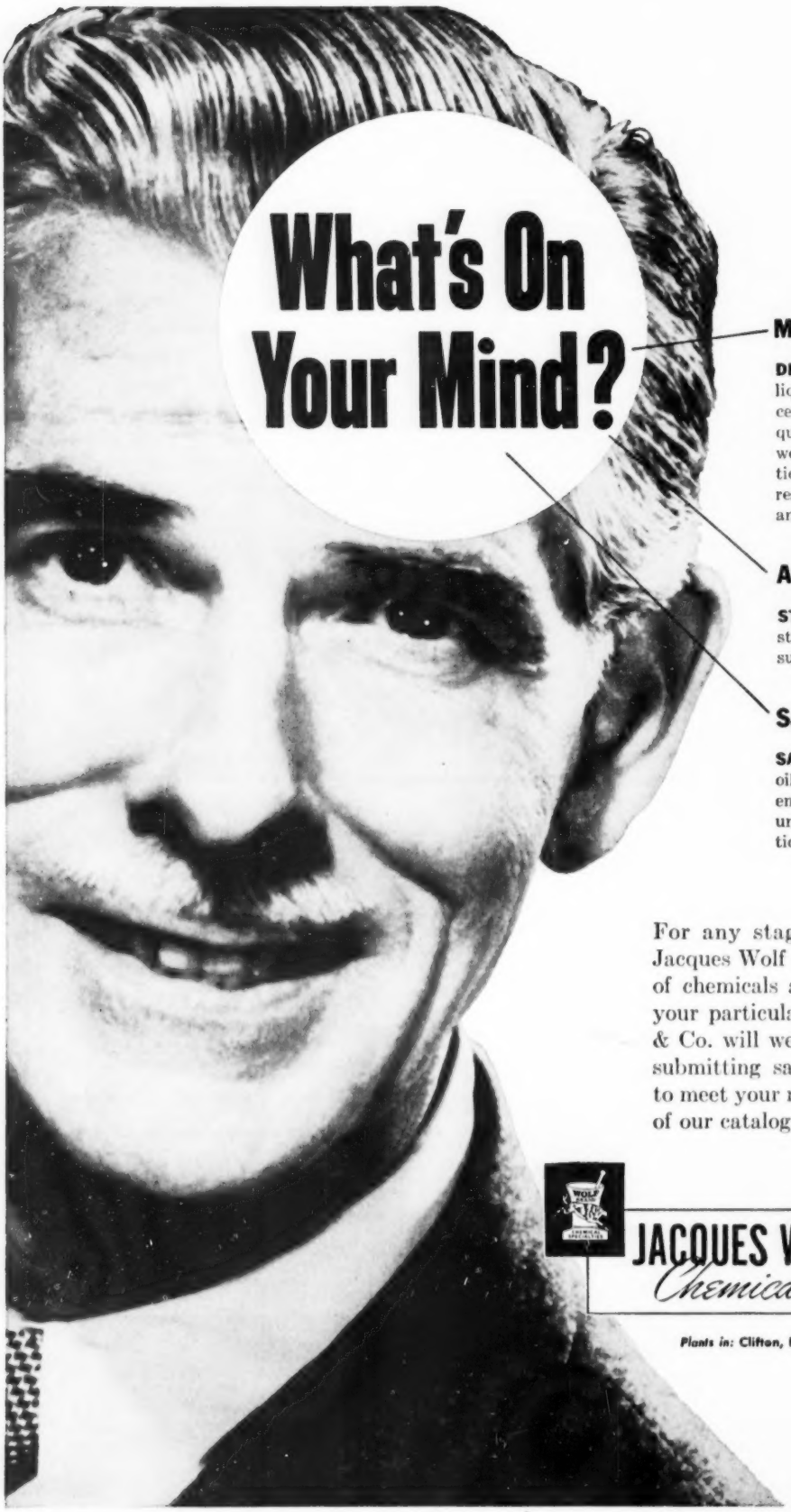
Sept. 23-24—Annual meeting, **Combed Yarn Spinners Association,** Grove Park Inn, Asheville, N. C.

Oct. 4-8—18th **Southern Textile Exposition,** Textile Hall, Greenville, S. C.

Oct. 14-15—Annual convention, **The Quartermaster Association,** Sheraton Plaza, Boston, Mass.

Oct. 14-15—Annual meeting, **North Carolina Textile Manufacturers Association,** Carolina Hotel, Pinehurst, N. C.

Nov. 15-17—Fifth national **Conference of Standards,** sponsored by the American Standards Association, Hotel Roosevelt, New York City.



What's On Your Mind?

Mercerizing

DESMER—An efficient, economical liquid wetting agent for use in mercerizing solutions. In very small quantities it causes instantaneous wetting out and uniform penetration of the caustic liquor which results in a smooth, round surface and maximum luster.

Anti-Static

STATLESS—A paste for reducing static on all types of fibers; is substantive in dilute solutions.

Sanforizing

SANFORIZING OIL—A clear, amber oil used as a penetrator and softener for sanforized cloth; promotes uniform shrinkage; gives lubrication during sanforizing process.

For any stage of textile processing, Jacques Wolf & Co. has a complete line of chemicals and specialties. Whatever your particular problem, Jacques Wolf & Co. will welcome the opportunity of submitting samples custom-formulated to meet your needs. Write for your copy of our catalog.

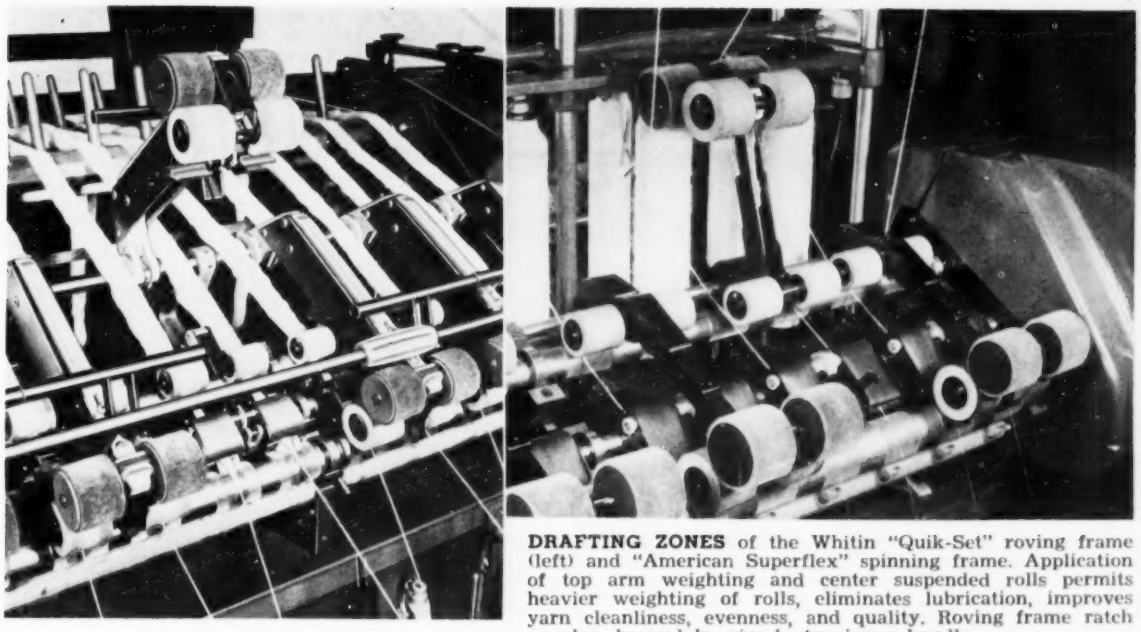
CHEMICAL PROGRESS WEEK-MAY 2?2

JACQUES WOLF & CO.
Chemicals PASSAIC, N.J.

Plants in: Clifton, N.J., Carlstadt, N.J., Los Angeles, Calif.

505B

NEW Equipment AND MATERIALS



DRAFTING ZONES of the Whitin "Quik-Set" roving frame (left) and "American Superflex" spinning frame. Application of top arm weighting and center suspended rolls permits heavier weighting of rolls, eliminates lubrication, improves yarn cleanliness, evenness, and quality. Roving frame ratch can be changed by simply turning a handle.

American System Roving and Spinning Frames Have Many New Features

Machinery for the American system processing of worsted, synthetic, and blended fibers has been improved by the addition of many new features. Preceded by the Whitin "Roto-Drafter" for processing top (TI for April 1954, page 147), the Whitin "Quik-Set" roving frame and the Whitin "American Superflex" spinning frame provide the most flexible machinery for quality yarn production.

Several major improvements in the drafting zones of both the roving and spinning machines result in important benefits to mills. The application of top arm weighting and center suspended rolls permits heavier weighting on the rolls, eliminates the necessity of lubricating the drafting elements, and improves yarn cleanliness, evenness, and quality. Also, a very desirable feature for quick and simple change of ratch on the roving frame has been added.

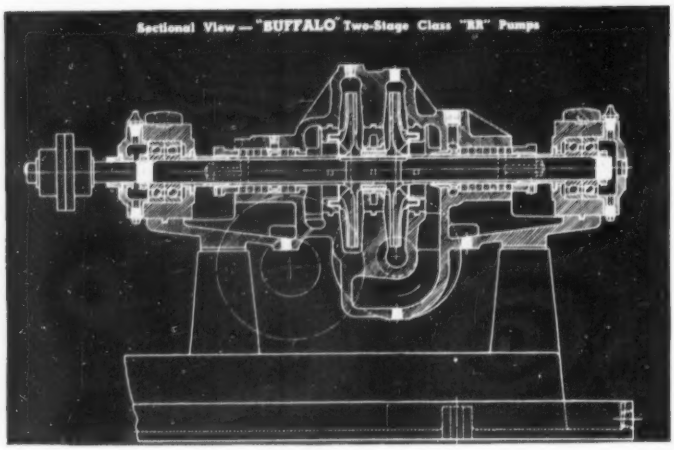
Quik-Set Roving. The new top arm is a simple, sturdy, fool-proof mechanism that is mounted in the rear on a solid steel back bar and has supports for the roll and revolving clearers, into which they can be quickly inserted or removed. Its smooth surfaces will not collect fly or dirt. The arm controls the weight on all three lines of rolls and is released by a handle mounted near its forward part. Cap bars, conventional saddles, and back bar blocks and arms are all eliminated and with them all the cleaning, lubrication, maintenance, wear, and repair formerly encountered.

The weight on the top front roll can be read directly in pounds on a scale in the vertical front surface of the arm. Moreover, the weight can be changed just by turning an Allen screw mounted on the top of the arm. The weight on the top back roll is also easily adjusted by a single Allen screw. This arrangement will insure the use of uniform weighting on all the rolls on the frame and controlled weighting on every frame.

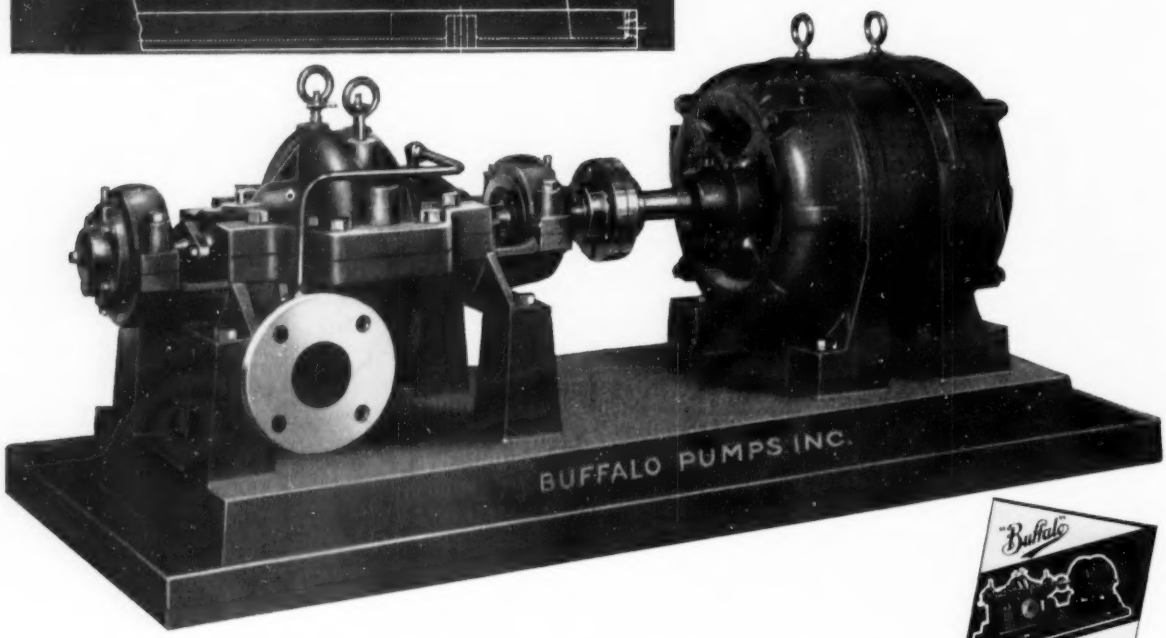
The Whitin double apron system with improvements is used for effective fiber control and high quality yarn production. It will draft fibers with effective lengths from 2½" - 8¾" in length. Recommended drafts range from 8 up to 20.

The new "Instant Ratch" control is designed so that rolls are spread or brought together by just turning a handle. The exact distance can be observed by a gauge readable in fractional inches located beside the handle. Another important advantage of the mechanism is that it insures exact roll alignment the length of the frame, avoiding even small roll

BLUEPRINT FOR SATISFACTION



in HIGH-PRESSURE *Clear Water* PUMPING



A look at a sectional drawing of a "Buffalo" 2- or 4-stage Type "RR" Pump will readily show you why this pump is giving complete satisfaction. Full ball bearing support on each end of the oversize shaft gives the pump strength where it counts. The husky, enclosed impellers mean lastingly high efficiency. The deep stuffing boxes (large enough for 7 rings of packing in the 2-stage model illustrated) keep maintenance to a minimum. Passageways in the casing are formed to give a "path of least resistance", and the casing is horizontally split for easy rotor inspection. And every "Buffalo" Pump *has* to prove itself before it ever leaves the factory . . . in a thorough load test. You *know* it will do your job . . . and keep on doing it . . . to satisfaction. Write for Bulletin 980-C today!

Write for Bulletin 980-C Today

"Buffalo" PUMPS

BUFFALO PUMPS, INC.
175 MORTIMER ST. BUFFALO, N. Y.
Subsidiary of Buffalo Forge Company
Canada Pumps, Ltd., Kitchener, Ont. Sales Representatives in all Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

deflection or misalignment. No gears, bolts, or nuts are involved. Ratch can be adjusted while the frame is in operation, so that the exact spread for each blend or lot can be established in a few seconds, or corrections made to maintain top levels of yarn quality.

This new roving frame will process worsted sliver weighing up to 100 grains per yard. For 100 per cent synthetics the sliver weights range up to 120 grains per yard.

American Superflex Spinning. The top roll suspension weighting arrangement of this new frame is shown in the photograph (page 85). Cap bars, conventional saddles, and back bar blocks and arms are eliminated by the center suspension. The front and back top rolls run in special clip-type bearings which control the centering and position of the rolls. The top rolls can be quickly inserted or removed. The use of anti-friction roll bearings eliminates grease and oil from the drafting area completely. The use of this arrangement practically eliminates lubrication costs in the drafting area and reduces cleaning to a minimum. An oil-free drafting zone improves yarn quality and provides for the maximum performance and efficiency of the drafting elements. The specific mill benefits in reduction of lubrication and cleaning costs are substantial. Because of the lessened duties, operator assignments can be increased and production costs lowered.

The top arm is strongly constructed of smooth finished steel to avoid lint accumulation and to simplify cleaning. It consists of two parts, the forward telescoping into the rear part, and pivots on a pin positioned near the back roll. A support on the forward section holds the revolving front clearer. The whole assembly can be released quickly and lifted up.

The weight springs are made of special steel and maintain the proper tension within very narrow limits. Changes in weights are secured by a simple screw adjustment on the spring housing. Because more weight can now be applied to the top rolls, the flexibility of the frame has been increased through its greater capacity for processing fiber types and blends formerly difficult to run.

Adjustment of ratch is greatly simplified. The rolls are spread or brought closer together quickly and easily. All that is required in addition to repositioning the roll gear swing arm is loosening the Allen set screw on top of the arm and the thumb screw located on the base of the slide, adjacent to the bottom of the spring housing. With this arrangement, the Allen set screws on the bottom back roll bearing slides are easily accessible, so that the whole change roll setting can be accomplished in a short time.

The latest Whitin double apron long draft system of drafting is used on this frame. Its flexibility and range are shown by the fact that this drafting system will perform successfully on fibers varying in effective length from 2½" to 8¾", with appropriate ratch settings.

For mills desiring traverses less than 9", the drafting system, top roll arrangement, and weighting system described above can be applied to the Whitin F-2 spinning frame. The new Superflex frame has a maximum traverse of 11", and can be easily adjusted to accommodate lesser traverses down to 9". For either frame, rings can be supplied in sizes from 1½" to 3½" or larger, depending on the gauge of the frame. Normally, the gauge will be 4" or 4½".

Whitin Machine Works, Whitinsville, Mass.

For additional data, request item E-122, using Handy Return Card on page 168.

NEW Equipment AND MATERIALS

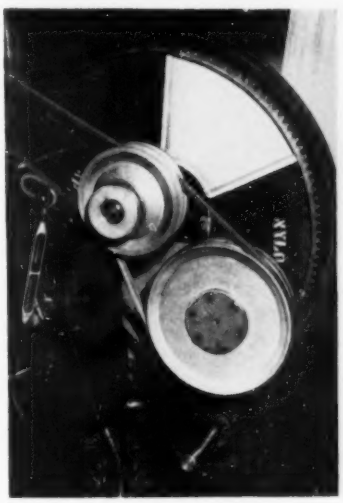
Fluid Type Loom Let-Off Drive Maintains Uniform Tension

The new Hydro-Tensor—or Loom Let-Off Drive—combines fluid coupling characteristics with a unitized arrangement of "V" belt and chain drives. By incorporating fluid coupling operation, the device maintains uniform tension from full beam to empty beam. During week-end shutdowns or other prolonged periods, it relieves tension in the warp to reduce end breakage and minimize start-up marks.

The drive permits unlimited positioning of cloth fell and re-establishment of initial weaving tensions. And the cushioning, or shock-absorbing, characteristics of the fluid coupling dampens inertia effect of the warp beam, particularly important in the weaving of synthetic fibers.

With the Hydro-Tensor, warp tension can be regulated through a broad range from high to low, with one simple adjustment. And without prior adjustment, automatic response to variable pick range is provided. For example, a trial run from broadcloth to onion bags was made (from 128 picks, or cross threads per inch, to 8 picks) without regulation except for tension.

Ease of installation, simplicity, and economy are made possible by the loom let-off, in that it provides an automatic tensioning device using the existing loom motor—eliminating cams, gears, and other positive drive mechanisms. It also permits independent mounting of the beam with an external power source. With few moving parts, it requires less maintenance than other types of loom let-off drives. Ball and roller bearings are both used to produce maximum efficiency and longer wear life. Packaged units, or kits, of the new Twin Disc Hydro-Tensor will be available for universal adaptation to all popular loom models.



The Twin-Disc Hydro-Tensor

Twin Disc Clutch Co., Dept. DS, Racine, Wis.

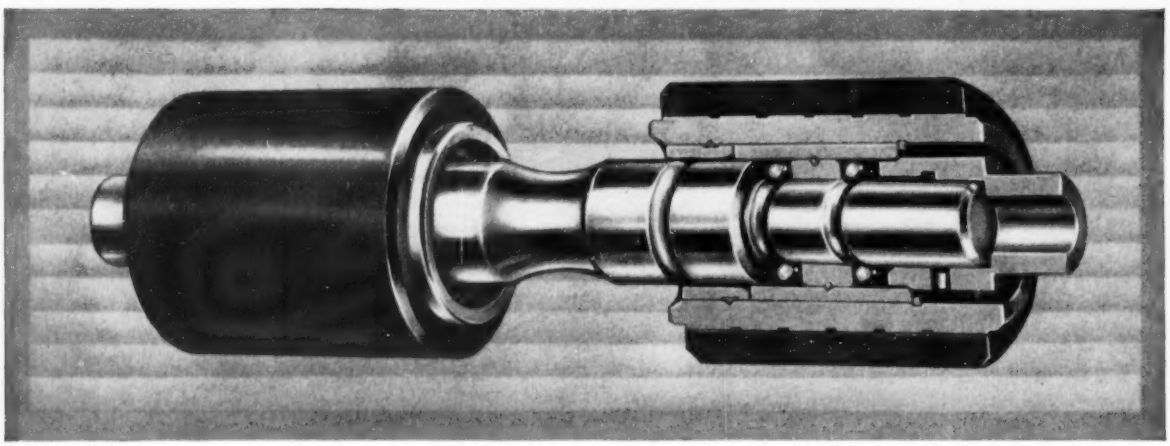
For additional data, request item E-118, using Handy Return Card on page 168.

Spindle Base Features Split-Sleeve Design

A new base which effects a considerable reduction in spindle investment features a split-sleeve design.

Into this base is mounted the precision-built Hartford running gear, with its rubber-cushioned, pre-lubricated ball bearings. This running

from SKF a LOW COST ball bearing top roll 5 WAYS BETTER



Over five *million* SKF Ball Bearing Top Rolls in service are proving that they're 5 ways better—and any SKF District Office will show you that they're priced *right!*

Here are the 5 important advantages of SKF Ball Bearing Top Rolls

1 SKF's thick-walled, interchangeable, machined shells are easily removable for periodic cleaning. Can do accurate cot grinding. Experience no distortion.

2 SKF Rolls need re-greasing only at 20,000-hour intervals . . . equivalent to 3 years of three-shift, six-day week operation.

3 Ball Bearings provide concentric, non-wobbling rolling, which means a more uniform yarn.

4 SKF Top Rolls are available with open or closed ends, for all spinning and roving.

5 More SKF Rolls are in service throughout the world than any other make of anti-friction rolls, and have been successful for over 16 years.

In addition, of course, you obtain these well-established cost and quality advantages inherent in ball bearing top rolls—elimination of spoilage from oil leakage, minimized picking and cleaning, elimination of wear on the saddle, cap-bars, nebs and roll necks, reduced power consumption, and, altogether, *cleaner, stronger, more uniform yarns.*

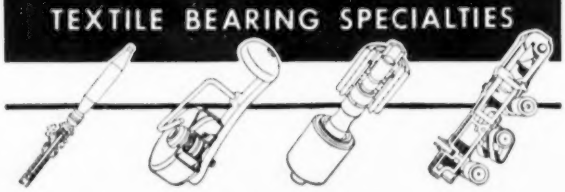
Ask any SKF District Office to have a qualified Sales Engineer show you how to get the 5 important advantages of SKF Ball Bearing Top Rolls. Or, if you prefer, send for SKF Bulletin No. 1052.

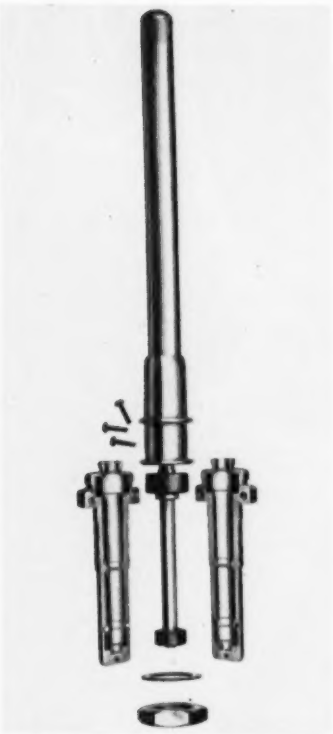
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.—*manufacturers of* SKF *and* HESS-BRIGHT® *bearings.*

7540

SKF®

TEXTILE BEARING SPECIALTIES





Base of new Hartford spindle is split sleeve type as shown here.

gear assures smoother running at high speeds, elimination of spindle oiling, and, consequently, cleaner yarn and floors.

Maintenance of these spindles is simplified by the new base. Its split-construction provides easy disassembly. Time is saved when bearings need relubrication, which normally occurs at five-year intervals. Likewise, the bearings are quickly reached in the event of damage.

Hartford Machine Screw Co., Hartford, Conn.

For additional data, request item E-117, using Handy Return Card on page 168.

Ship Textiles Safer and Easier with Bale Cups

Long-distance shipping of textiles is safer and easier with a new telescoping Bale Cup. Goods are securely packed in the lower portion of the waterproof, pilfer-proof bale cup, and the slightly larger top section telescopes over the bottom to form a double protective wall.

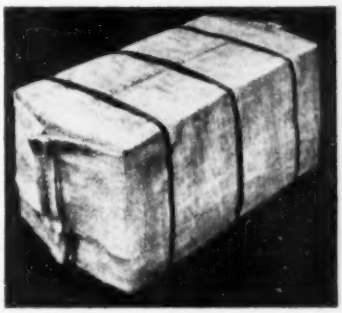
Savings of thousands of dollars yearly result from faster assembly, packing of more yardage per shipment, better protection in transit which permits lower insurance rates, and other important factors. For better product identification, the manufacturer will print orders with the customer's own label or trademark in an attractive 2-color design.

The telescoping bale cups are made of quality burlap and crinkled paper. A variety of adhesives are available to meet customer requirements. Cups arrive flat, to conserve storage space, and low temperature adhesives permit quick opening. Finished bales are compact, easy to store and handle, neat in appearance. The bale cups are especially designed for use in baling presses but are equally suitable for use without a baler.

Chase Bag Co., 309 West Jackson Blvd., Chicago 6, Ill.

For additional data, request item E-402, using Handy Return Card on page 168.

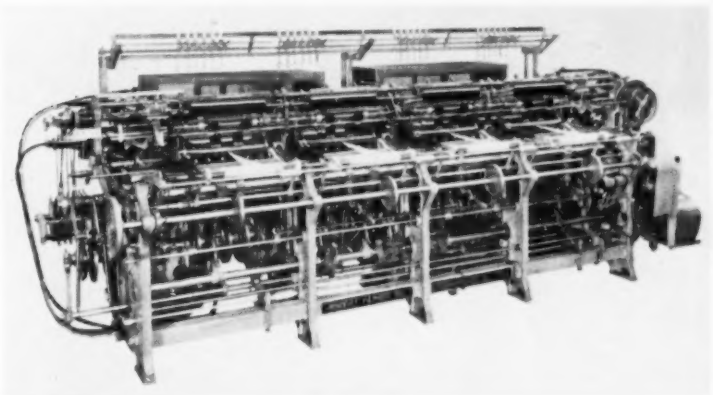
NEW Equipment AND MATERIALS



Chase Bag Co.'s telescoping Bale Cup for use with or without baler.

Reiner's 75 Gauge Full-Fashioned Knitter

The Reiner 75 gauge full-fashioned hosiery knitting machine, development of which was announced recently, is now available. Like Reiner full-fashioned hosiery machines of other gauges, it is a four-section machine and designated a Twin Knitter.



The machine is offered with the following attachments: loopless toes, perforating, black and frames heel, ringless, 15" needle bar, and up to eight yarn carriers. It is well suited for production of various styles and sizes to enable hosiery manufacturers to follow more readily and more economically market trends.

Male and female operatives are employed on Twin Knitters.

Robert Reiner, Inc., 550-64 Gregory Ave., Weehawken, N. J.

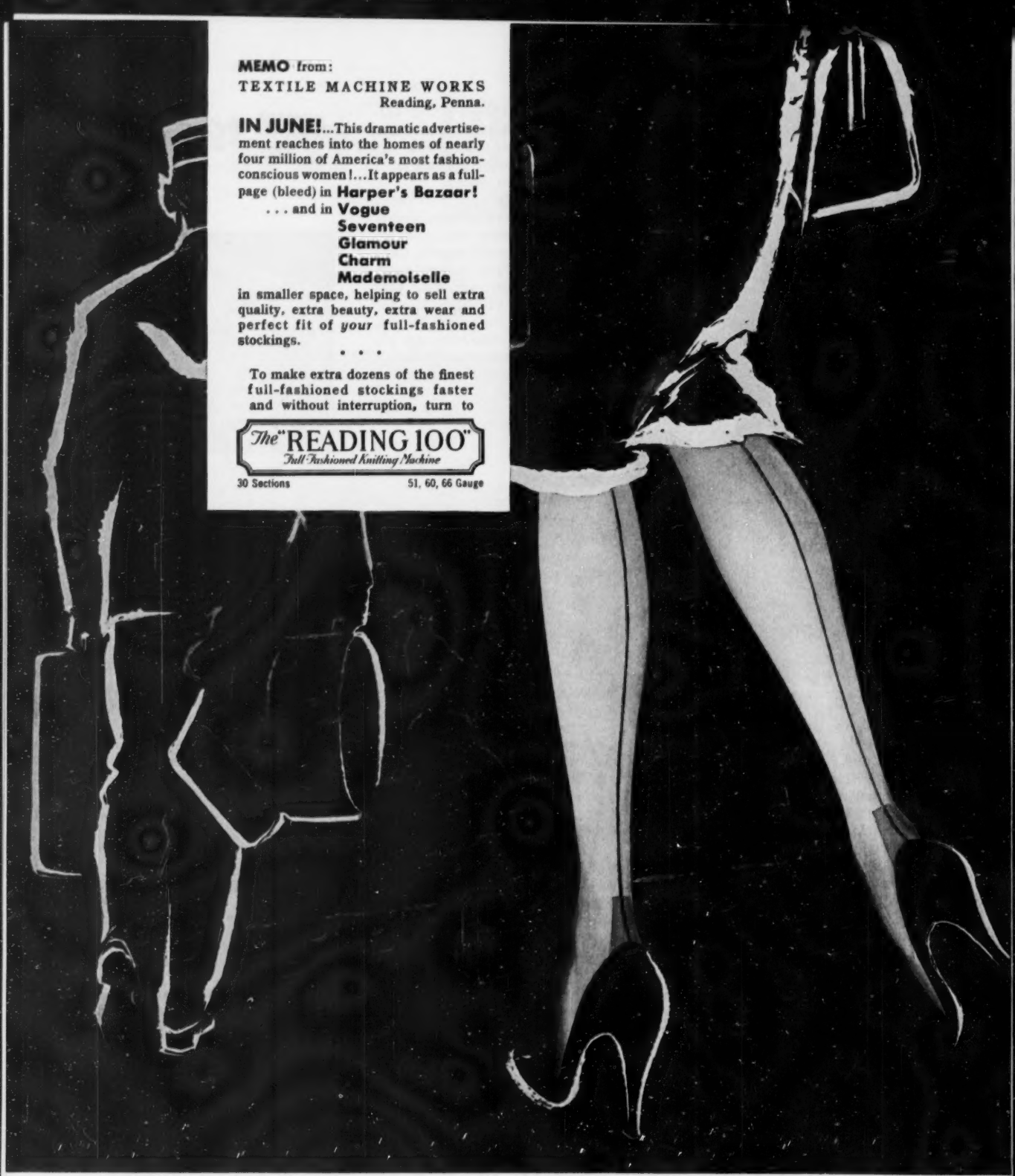
For additional data, request item E-901, using Handy Return Card on page 168.

Adjustable Gauge Twister for Larger Packages at Greater Speeds

Yarn packages in sizes up to nine pounds are now produced faster through the use of a completely modernized twister frame. Up to 50% higher traverse speeds provide reduction in doffing, donning, and winding costs.

An outstanding feature of the new frame is its exact ring-to-spindle concentricity, which greatly improves quality. Gauge adjustability is com-

(Continued on page 175)



MEMO from:
TEXTILE MACHINE WORKS
Reading, Penna.

IN JUNE!...This dramatic advertisement reaches into the homes of nearly four million of America's most fashion-conscious women!...It appears as a full-page (bleed) in **Harper's Bazaar!**
. . . and in **Vogue**
Seventeen
Glamour
Charm
Mademoiselle
in smaller space, helping to sell extra quality, extra beauty, extra wear and perfect fit of *your* full-fashioned stockings.

• • •

To make extra dozens of the finest full-fashioned stockings faster and without interruption, turn to

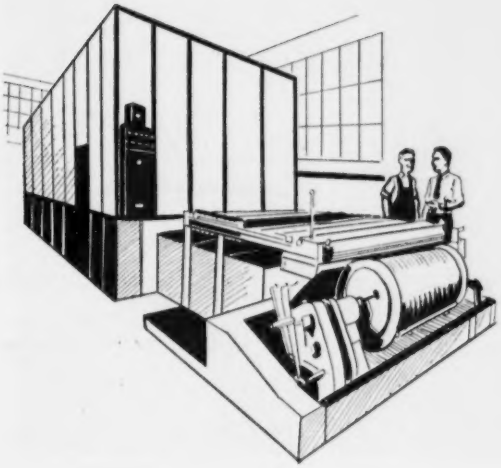
The "READING 100"
Full-Fashioned Knitting Machine

30 Sections 51, 60, 66 Gauge

FASHION MARKS OF A TRULY FASHIONABLE TRAVELER . . .

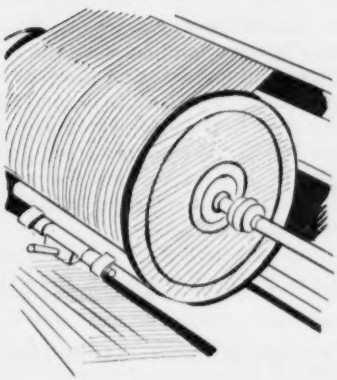
Her Full-Fashioned Stockings . . . full-fashioned for the most exciting look in legs at home and abroad. For *only* full-fashioned stockings are tailored to fit . . . custom-knit for skin-smooth flattery that is *never* marred by twisting, wrinkling, sagging; custom knit for longer wear. And, only in full-fashioned stockings will you find the pencil-line back seam. It travels from heel to thigh beautifying every inch of your lovely legs as no other stockings in all the world can do. So, always travel in fashion . . . in full-fashioned stockings.

© 1954 Hosiery Fashion

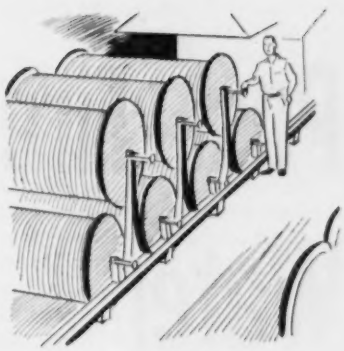


watch these critical points when

SIZING WORSTEDS



SAVE YOURSELF TROUBLE in weaving by maintaining loom beams. Keep flange bolts tight to prevent beam head from shifting; handle beams with care so flanges will not be sprung; check gudgeons for alignment (those out of true can give difficulty at both slasher and loom by making high and low places in the warp).

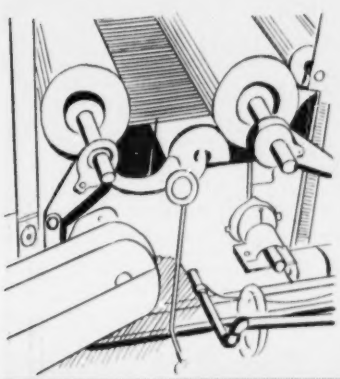


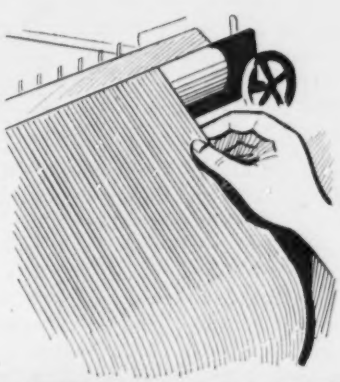
MAINTAIN EVEN TENSION on all beams in the creel; worsted yarn is expensive and more waste is made when tension varies (uneven runout of beams).

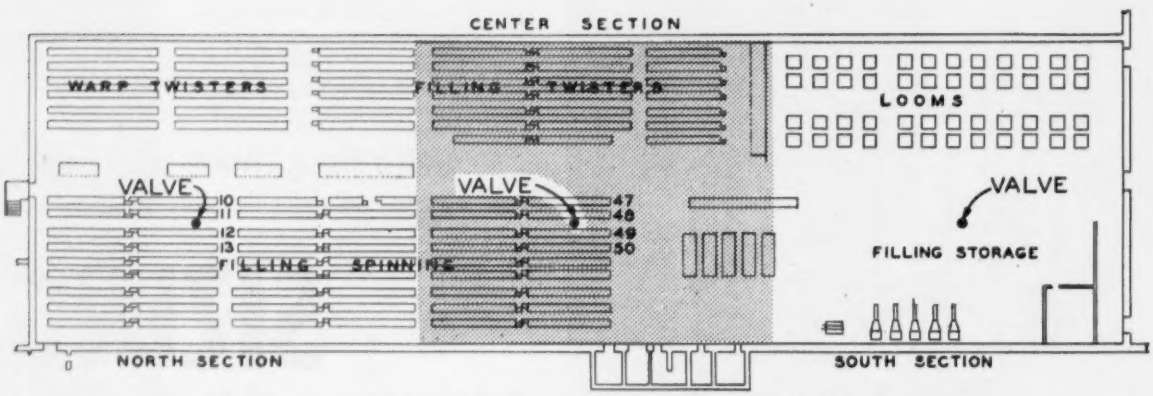
WATCH WARP CLOSELY as it passes from dryer for spots of size or streaks. These may be caused by dent in copper roll in size box, insufficient mixing in kettle or insufficient agitation in size box, with resultant formation of lumps of size; or trash and fiber masses in size box.

DON'T OVERDRY the yarn. In addition to destroying the value of the sizing process, the yarn will tend to puff up or become spongy during storage and give difficulty in weaving. Store warps in room with adequate humidity.

GETTING EXCESS SHEDDING at bust rods on front of slasher? Try a wet lease or split rod before drying to reduce the shedding. Too much softener may also contribute to excess shedding.







LAYOUT OF DEPARTMENT. Locations of drain valves are indicated in this sketch by arrows. On chart posted in mill the valves are spotted by red dots.

Reduce Post-Fire Water Damage

HERE'S THE WAY IT'S DONE AT TALLASSEE MILLS. CHARTS AND PHOTOS SHOW EMPLOYEES CUT-OFF VALVE LOCATIONS.

Staff Prepared

EXCLUSIVE

SO OFTEN when a fire occurs in a mill and the sprinklers have operated, they continue to spread water long after the fire is out. Water damage to stock in process and equipment is usually as great or greater than the damage caused by the fire.

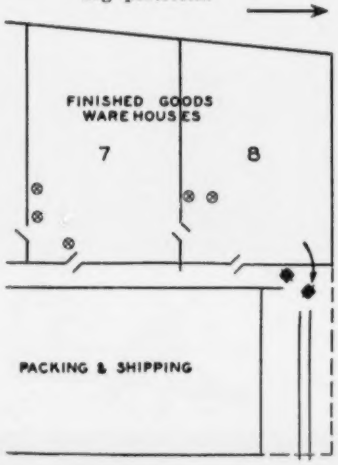
The excess damage caused by water is due primarily to the fact that employees do not know where to cut off the main valve serving the sprinklers, or if the building is multi-story they do not know where the drain valve is located to stop water in the sprinkler system above from draining out in the floors below.

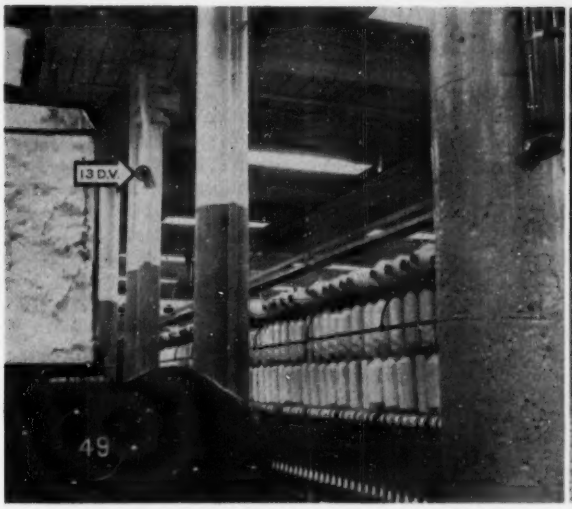
Learning about water damage through experience, Tallassee (Ala.) Mills have instituted an educational program for their supervisors and employees so that everyone knows the location of the "Post Indicator Valve" of the incoming line and the location of the drain valve. When the fire is out, the sprinklers can be cut off at the PIV and the drain valve can be closed.

Acquainting Employees with Valve Location. Under the supervision of the safety department, of which Dewitt Wisener is director and Mack Bell is safety engineer, floor plans of each department are posted in that department with location of the drain valves by number indicated in color. Adjacent to the floor plan is a photograph of the drain valve with its number pasted thereon; the photograph takes in enough of the surrounding scenery and machinery so that the operative or supervisor may become familiar with the territory and know the location of the valve long before a fire occurs. For instance, in the drain valve picture for one of the spinning rooms, the post is shown on which the valve is located, and spinning frame No. 49 is clearly visible.

The location of the valve is explained to each employee, and with

FINISHED GOODS WAREHOUSE PLAN is posted so employees can spot drain valves. Since the dry valve is located at the southern end of the finished goods warehouse "just to the left of the steps going up to the truck loading platform," a double precaution is taken to show the outside of the entrance to the valves and location of valve under loading platform.





LOCATION OF DRAIN VALVE IS SHOWN IN PHOTO. Instructions appearing under photograph (posted in mill department) read: "In case of fire, no valves in sprinkler system shall be closed until all fire is extinguished. After closing number 13 PIV open No. 13 DV (Drain Valve) located in filling spinning near spinning frame No. 49, as quickly as possible."

LOCATION OF POST INDICATOR VALVE is outside mill as shown in this photograph. Note that it is identified in picture. A tag on the Post Indicator Valve further identifies it when employee reaches the valve. Instructions explain when valve must be closed and what it controls. Reference is also made in instructions to Drain Valve to further reduce water damage (see photo and caption at left).

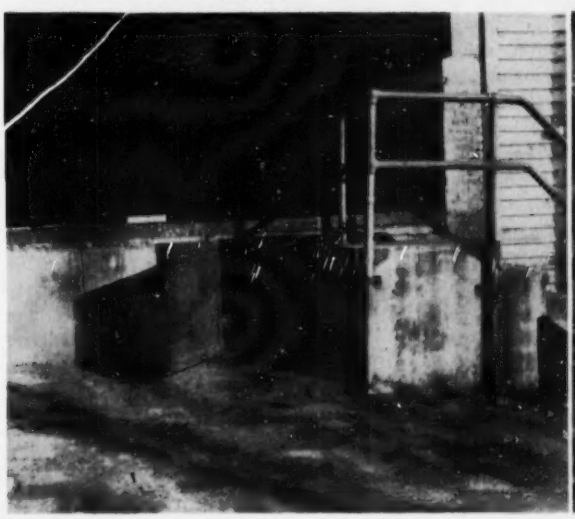
the floor plan and picture posted permanently in the department, the location of the valve soon becomes as familiar to the employee as any other fixture in the room.

The Post Indicator Valve which cuts off all water to the sprinkler line serving the department is also located by photograph. This, too, is posted in the department. Although this main PIV is usually located outside the mill, the employees in the department are shown the location of it. In the picture, enough of the surrounding scenery is taken in so that the PIV is readily recognized by its position relative to a building, a tree, another valve, etc.

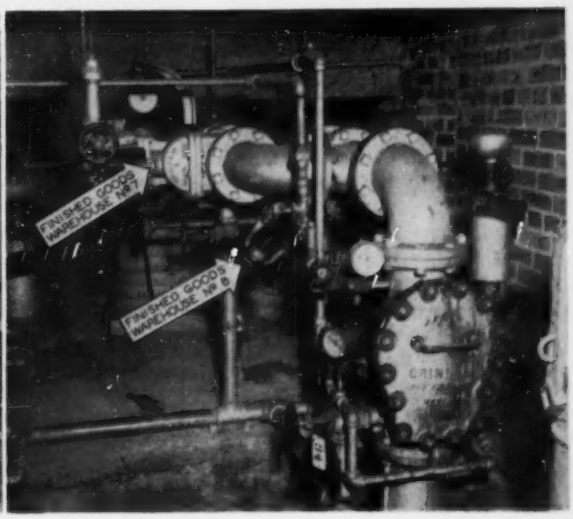
Furthermore, the PIV is labeled on both the photograph and on the valve.

In instances where the PIV is located in a room or under a building or loading platform, the safety department has taken no chances for confusion on the part of an excited employee. The location of the PIV is shown on the floor plan, the outside of the room or its entrance is shown by photograph just as the employee will see it, the inside of the room or position under building is photographed with the valve identified, and upon arriving at the PIV the

EMPLOYEES KNOW VALVE IS INSIDE THIS DOOR. Instructions under picture tell when to use valve and how to reach it.



HERE IS WHAT IT LOOKS LIKE INSIDE DOOR. The valves are identified by tag. Instructions are explicit.



Tips for Application of Finishes to Orlon Fabrics

In order to impart stiffness to fabrics of "Orlon," resins such as "Panalon" FF or "Methacrol" FNH may be applied by a normal padding operation followed by drying. These resins are very durable to washing and to most dry cleaning procedures. In general, the resins of the type used on rayon do not penetrate the "Orlon" fiber and hence do not improve the inherent resilience.

Various cationic softening agents are substantive to "Orlon" and can be exhausted or padded on fabrics to give good results. While these products are removed by washing and dry cleaning, it has been found that the action of wear plus washing has a natural softening effect which compensates for the loss of the chemical agent.

Standard water repellents such as "Aridex" and "Zelan" AP Paste are applicable to fabrics of "Orlon" by the usual methods to give excellent water repellency characteristics. "Zelan" has excellent wash fastness on "Orlon" and fair fastness to dry cleaning.

No completely satisfactory flame retardants are presently available for "Orlon."

Except in certain special uses, static accumulation on garments of "Orlon" is not objectionable. Most of the cationic agents have an appreciable antistatic effect on "Orlon," which is fugitive to laundering. Two newer agents, "Zelec" DX which can be exhausted on the fiber, and "Zelec" DP which is applied by padding, are durable to washing with soap. Some synthetic detergents will cause a loss of the antistatic property, but this can be restored by again washing with soap. Durability of these agents to dry cleaning is dependent on the dry cleaning system employed.

From paper "Mill Procedures for Dyeing and Finishing of 'Orlon' Acrylic Fiber" by Howard P. Brokaw, E. I. du Pont de Nemours & Co., Inc.

2% More Fiber Used in '53 Than '52

Total textile fiber consumption in the United States during 1953, according to the "Textile Organon," was 6,521,500,000 pounds. This consumption at the mill level of cotton, wool, and man-made fibers was 2% over 1952 but 4½% under 1951 and 1950. These two years were the best for total fiber consumption since the war-time year of 1943.

Cotton accounted for 69.3% of total fiber consumption, a figure equal to 1952 but notably below the 1951 figure of 71.0%. Wool's share last year remained at the 7.5% level shown in 1952 and, while slightly above the 7.2% figure in 1951, it was still decidedly below those for any other post-war year and lower than for any year later than 1934. Silk remained steady at a nominal 0.1% of total consumption. The rayon+acetate share during 1953, was 18.8%. The non-cellulosic man-made fibers increased their share to 4.3% of the total in 1953, but the rate of increase was lower than that of recent years in the past. The man-made fibers as a whole accounted for 23.1% of total fiber consumption in 1953 compared with 23.0% in 1952 and 21.7% in 1951.

Utility Poundage Basis. From the standpoint of "utility poundage" consumed, a different proportion for each category of fibers is obtained, the Organon pointed out. Utility poundage takes into account the processing losses incurred in the various fibers, the sheerness or fineness of the resulting fabric that clothes the consumer, and the wear life of the fabric in use.

In the case of cotton, spinning and processing losses are currently estimated at 9%, in wool they are 5%, for man-made staple 4%, and 1½% for man-made filament yarn. In raw silk, the processing loss, including both waste and boiloff, is 23%. These processing and spinning loss percentages represent revisions of earlier figures, the Organon noted.

In both the sheerness and wear life factors of utility poundage, the publication pointed out that the non-cellulosic man-made fibers are not needed in as great a poundage to produce comparable items as are cotton, wool or rayon and acetate. Because the main poundage of the non-cellulosic man-made fibers is nylon, there is good reason for doubling the actual poundage of these fibers to obtain their utility poundage.

On the basis of utility poundage, therefore, man-made fibers accounted for nearly 28% of the total consumed last year.

employee finds a tag on the PIV which confirms that this is the PIV for his department (or the department needing the water cut off).

Educational Program Is Insurance. A lot of work? To be sure. But water causes a lot of damage, and the educational program is considered insurance. Also, the photographs and room layouts are the simplest means of getting the point across to both old and new employees.

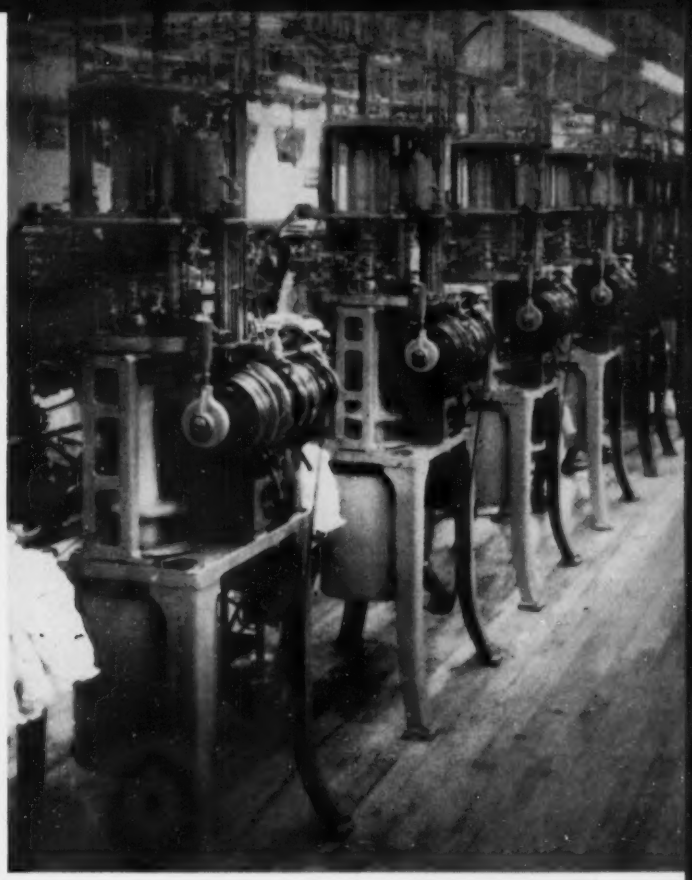
Take the opener room, for example; imagine trying to explain to a new employee, among all other items he must be told, how to cut off the sprinklers serving each machine or several machines. The layouts and pictures do the trick. And they are posted for reference by the employee if he forgets.

In addition to the valve locations posted in each department, a complete manual for the entire plant is in the office of the agent, superintendent, technical overseer, shop foreman, and safety director.

Tallassee may have a fire, but now the chance of water damage is greatly reduced.

It's important
to determine your

OPTIMUM KNITTING SPEED



By Don Numan
EXCLUSIVE

SEVERAL years ago a hosiery mill purchased some new machinery, and a factory service man came to the mill to help get the machines set up and running. The first question which the service man had to answer was: How fast can we run these machines? The service man had instructions from the factory regarding speed, and he recommended a speed about 10 turns per minute less than the salesman's recommended top speed. Having little experience with this machine but considerable experience with similar machines, we suggested a slightly slower speed. The service man said other mills were getting good results at his recommended speed, so we decided to follow his recommendations. We did not have too much trouble getting the machines started and tuned up, and after a few weeks they settled down to a steady grind.

A few months later fifteen additional machines of the same kind were purchased. These were placed on a different line shaft with other types of machines running 5 and 8 rpm slower. Instead of purchasing new and larger pulleys (which would not be a standard size), we decided to run this group slightly slower and compare the results with the original group of machines.

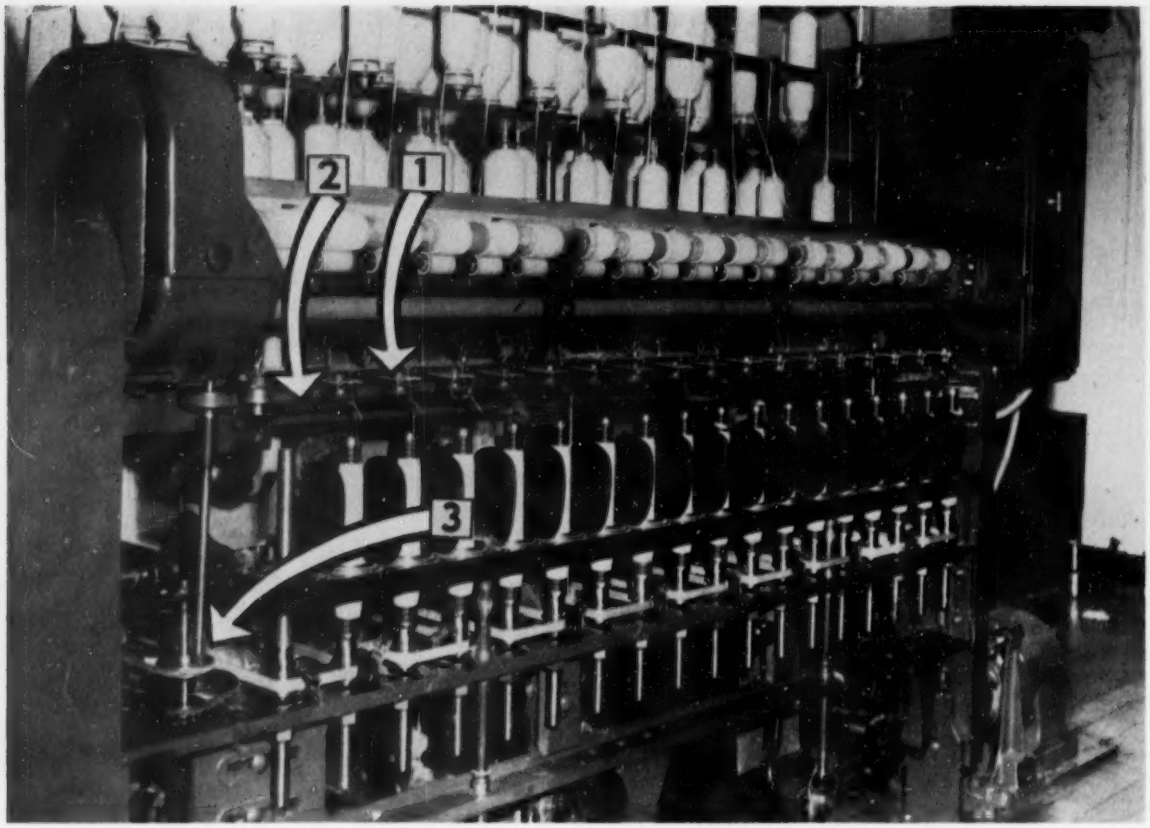
After a reasonable breaking in period, we kept accurate records of all production. Costs were noted on the two groups of machines operating at different speeds. This included total production, seconds, waste, needles, machine parts, labor, and time each machine was broken down.

We soon found that the machines running at the higher speed actually produced less good work, waste and seconds ran from 1 to 2% higher, needle cost was 3% higher, and repair and replacement parts cost was nearly 8% higher. Repair parts included damaged gears, clutches, a few burned out bearings, and damaged needle cylinders. We immediately reduced the speed on the original battery of machines. Although the books showed that a nice profit was being made, the mill was losing money every day due to excessive machine speeds.

This story does not end here. Some newly developed attachments were purchased from the same company, and another service man came to help get the attachments put on and adjusted properly. The first thing he did was to check the speed of our machines. The service man then said he could understand why the machines were running so nicely. We then related what the salesman said about speed, what the service man recommended, and what we finally learned the hard way. He smiled and said the company did recommend the slightly higher speeds in the beginning but a number of mills proved that lower speeds were more satisfactory.

Many mills would no doubt be better off financially if they had a few more machines and a little less speed to help meet their production requirements.

Keep records, and make comparative tests — it's easy to learn, the hard way!



TEMPORARY TWIST is added to yarn on this frame between front rolls and thread guide, by rotation of rubber-covered roller (**1**) in contact with yarn. Roller is driven by belt (**2**) through two-stage V-belt drive (**3**) from twist gear shaft.

TEMPORARY TWIST IN ROVING AND SPINNING WILL

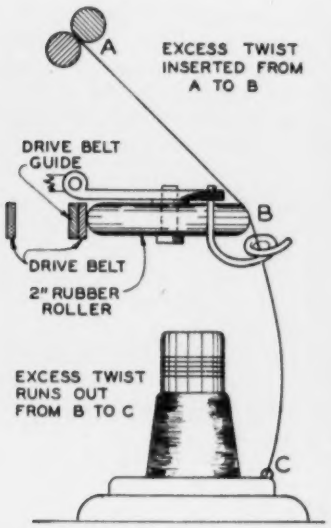
Reduce Ends Down

By Hugh M. Brown
School of Textiles, Clemson College

SEVERAL years ago a study of the advantages of temporary, or pre-twisting, was begun in the School of Textiles at Clemson. Temporary twisting here is meant the addition of surplus twist to yarn or roving at the point where it leaves the front drafting rolls. This temporary twist is a false twist that comes out again as the yarn passes the temporary twisting device.

During the development of the textile industry many methods of producing false twist have been proposed. Several methods are well known, such as rotating trumpets, rotating sleeves as in the Hegemax system, drafting rolls mounted in rotating rings, known as Harris rolls, and others.

Original Clemson Pre-Twister. What is believed to be a new method was developed and patented by Clemson two years ago. A rubber-faced belt was arranged to run at slow speed under the ends on a spinning frame. This belt contacted the ends just above the present thread guides and introduced extra twist in each end between the belt and the front rolls. It was especially beneficial in reducing ends down in making low twist yarns by placing up to twice the normal twist in the region between the thread guides and the front rolls, where the ends are normally most likely to break. The device can be used to produce one or more results, such as reduced ends down,

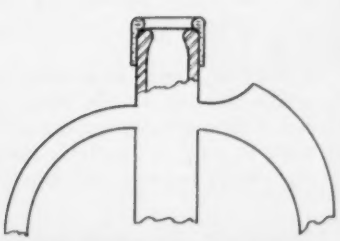


CROSS SECTION of temporary twisting device shows rubber-covered roller and belt drive.

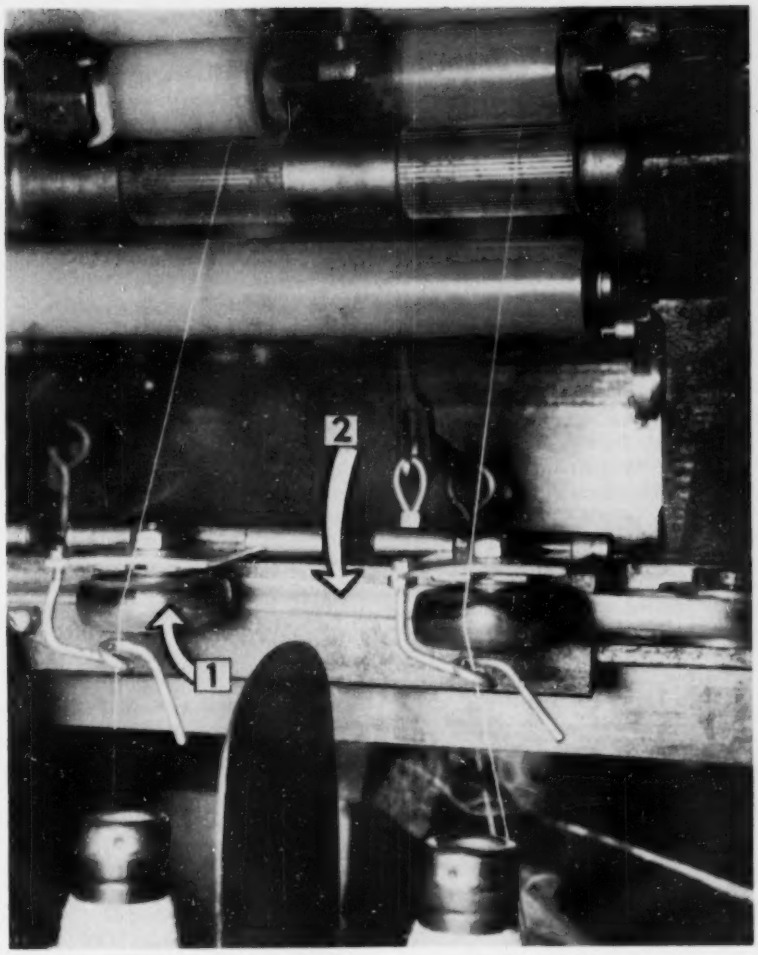
higher speed, lower twist, or making yarns from shorter staple.

The belt method had two disadvantages: it complicated doffing; and would carry an end, broken at the traveler, over to the next and cause doubling.

Improved Pre-Twister. Recently the School has developed an improved method that seems to eliminate all disadvantages. In this form each thread guide bracket carries a rubber-covered roller about two inches in diameter, over which the yarn passes before going through the usual pigtail. The rollers are driven by being in contact at their rear edge with a slowly moving belt. See illustrations. Thus, if an end breaks at the traveler it will not be carried over to

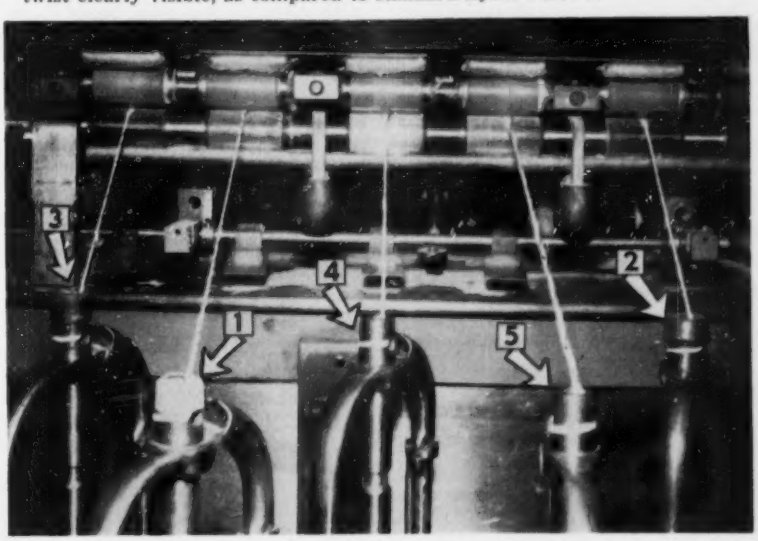


RUBBER SLEEVE is mounted on flyer as shown in sketch.



ENDS DOWN WERE REDUCED 66% on 36s standard low twist yarn through temporary twist inserted by rubber-covered rollers (**1**) shown here in close-up. Belt (**2**) on experimental model will be replaced by steel band moving along one side of frame and back the other.

EXTRA TWIST. Several hundred per cent extra twist is inserted between front rolls and flyers on this roving frame by two types of rubber sleeves over top of flyers at **1** and **2**, and by metal sleeve with rubber inner sleeve at **3**. Strand of colored roving run in with sliver makes temporary extra twist clearly visible, as compared to standard flyers **4** and **5**.



Trade Association for Jersey Producers Formed

Formation of the Jersey Institute, a new trade organization consisting of those engaged in the manufacture and distribution of jersey fabric, particularly to the fashion trades, both women's and men's, has been announced.

William Heller, of William Heller, Inc., is chairman of the new organization. I. A. Wyner, of I. A. Wyner & Co., has been designated treasurer. Sidney S. Korzenik, who issued the Institute's statement, is serving as director and counsel.

"The jersey industry," said Mr. Korzenik, "has in the recent past witnessed one of the most remarkable expansions in the textile field. It is now approaching the 100 million dollar mark in annual volume, and its fashion prestige has advanced even more than its volume. It represents a significant segment of fabrics going to the garment trades. This is particularly true of the women's fashion industries, and it is becoming increasingly true of men's sport apparel.

"As the jersey industry has grown in importance, it has also developed an increased awareness of its own distinctive problems and opportunities and of its need for creating a medium through which jersey men may work together for the promotion of their common interests and the interests of those who use their product.

"The Jersey Institute was born out of the general feeling that steps should be taken to assure sound and orderly marketing procedures in consonance with the industry's growth. For this distinct industrial group, using chiefly wool but also other fibers, the Institute will serve as forum and as spokesman. It will study fair trade practices, the protection of quality standards, technical problems, and in fact nothing affecting the future of the industry will be alien to the industry's scope."

It was emphasized that although the membership of the Jersey Institute now embraces some of the leading producers, the association's present roster is considered as only the initial nucleus, and invitations to others in the field, giving them an opportunity to affiliate, will be extended in the near future.

the next, and there is no extra effort in doffing since each thread guide raises upward as is the case on present frames.

The belt in the present experimental form is driven by a two-stage V-belt from the twist gear shaft at the head end of the frame. In the final form it is contemplated to drive the rolls by a steel band moving along one side of the frame and back the other. No high speeds are involved and the device should have long life.

Results. Results with this system have been very promising, giving reduced ends down on both cotton and rayon when spinning at low twist. A run in which 36s yarn was made from 1-1/16" cotton with a twist multiplier of only 3.0 gave one-twentieth as many ends down as when running the frame normally. The twist was purposely made this low to give an excessive number of ends down for normal running in order to evaluate more quickly the effect of pre-twisting.

In another test, a multiplier of 3.54 without the rolls gave twice as many ends down as the temporary twister with a multiplier of 3.00.

In general, running 36s on standard low twist yarns, the method reduces ends down by 66 per cent, both on 1-1/16" cotton and on 3-denier, 1-9/16" rayon staple. The yarns were tested for breaking strength, evenness, and appearance, showing no significant differences in any of these properties. On regular high twist yarns the reduction in ends down is not appreciable, since sufficient twist travels up the ends to make it unnecessary to add more with a pre-twister.

It is thought that this device is a very practical improvement which can be added to existing spinning frames economically enough to effect real savings in spinning low twist yarns.

Pre-Twister for Roving. Temporary twisting on roving frames can be had at practically zero cost in a manner that is simplicity itself. A rubber band is placed around the top of the flyer, extending a little above it. As the flyer rotates, this band continually passes under the strand of roving and rolls it in the correct direction. It is readily possible to insert several hundred per cent extra twist in the region between the top of the flyer and the drafting rolls.

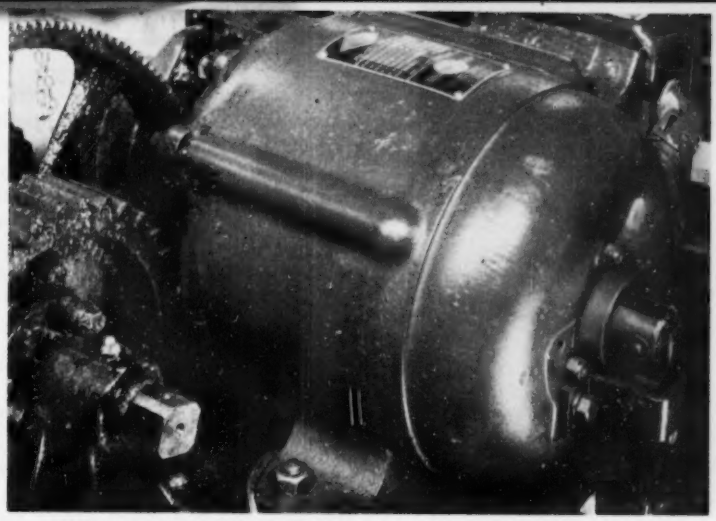
In normal operation, the flyers continually vibrate the roving ends slack by stretching them in their weaker places. Temporary twisting prevents such stretching and reduces the unevenness. The effect is better on heavy, low twist roving, where the Uster tester showed from 20 to 25 per cent reduction in non-uniformity. Yarn spun from such roving also shows less unevenness. Other advantages should be fewer ends down, more compact bobbins, and better spinning. The added amount of roving on the bobbins reduces proportionately the cost of doffing and reduces creeling costs at the spinning frame.

The flyer has been treated successfully in several ways:

1. Rubber sleeves over top of flyer.
2. Rubber insert placed inside top of flyer after first reaming out to larger diameter.
3. Reaming out top of flyer to about ½-inch diameter and then coating top with a rubber-like paint.
4. Using metal sleeves over top of flyer, with the top edge of the sleeves coated with rubber-like material.

In addition, it may be possible to metallize the top of the flyer to give it a fine grain roughness, or to coat it with a material such as fine emery paper or sandpaper.

Acknowledgment. The valuable assistance of Howard L. Loveless of the School of Textiles, Clemson College, in obtaining the test data is gratefully acknowledged.



UNIT IS SELF-ENCLOSED, including motor, clutch, and brake, thus eliminating failure due to oil, dirt, and lint fouling up these parts.

SAFETY FACTOR which protects fixers and other personnel from accidental starts while working on the loom for repairs. . . by the mere flick of the safety latch . . .

Power Transmitters

IMPROVED LOOM OPERATION

at Clinton Silk Mill

"Our experience has revealed that after the initial check following a reasonable break-in period, and after all adjustments have been carefully made, there are few adjustments required on future check-ups."

By Roy Hampson and George Griess
Clinton Silk Mill
EXCLUSIVE

LOOM efficiency and quality at Clinton Silk Mill of Holyoke, Mass., are in many respects improved by the use of Diehl power transmitters.

Here an installation of 40 Draper XD looms have been in operation for about two years. These looms have been running on a two and three-shift basis at speeds ranging from 176 picks per minute to 200 picks per minute. The average efficiency has steadfastly remained at close to 100 per cent, barring cases where experimental yarns and construction have caused production to decline. At no time during these experiments have loom speeds been reduced below 176 picks per minute.

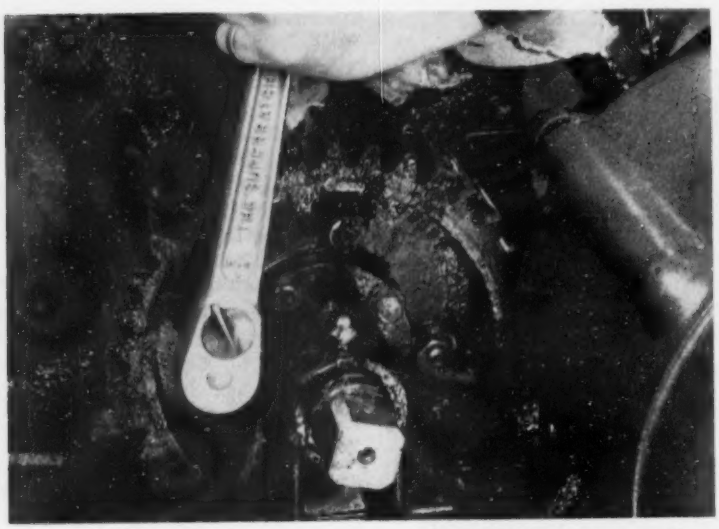
Minimum Fixing. No amount of expert loom fixing will produce high efficiency and good quality if the power transmitted to the loom is inadequate or troublesome and difficult to maintain. Here is where the Diehl power transmitter comes in. It is a compact and trouble-free unit and easily dismantled and changed for a new unit should the occasion arise. Although we have had to change no units since our looms have been equipped with them, to do so is as easy as changing a pinion gear.

The simplified linkage of the shipper handle to the power source is the most direct hook-up possible. There is no complicated linkage of levers, fingers, cones, clutch plates, or separate brake mechanism. Here we really have "finger tip" control in loom operation.

The unit is entirely self-enclosed, including motor, clutch, and brake, thus eliminating clutch and brake failures produced by oil, dirt, and lint fouling up these parts. Some of the virtues of this transmitter are reflected in the quality of cloth with regard to such defects as start-up marks, particularly those that are caused by a weak beat-up of the first pick when starting the loom. In fact, these looms can be started at practically front center without making a crack or mark in the cloth.

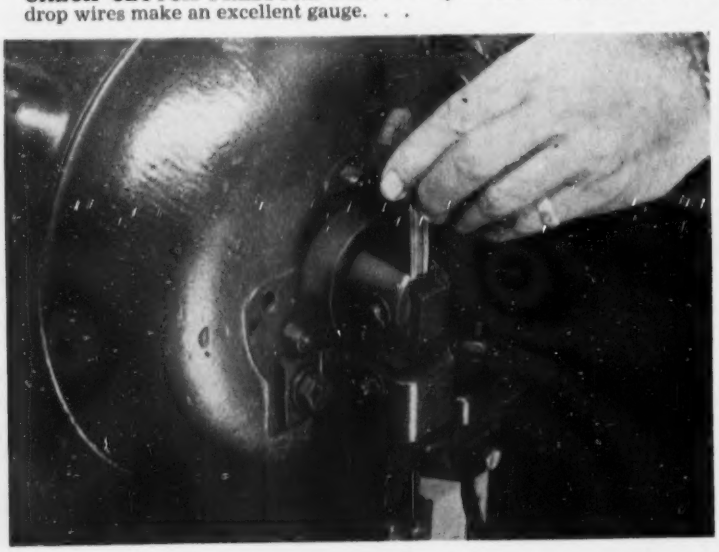
Bang-offs caused by power fluctuations and slow starts are reduced to an absolute minimum. Such imperfections as barre cloth,

CHECK FOR EXCESSIVE WEAR to see if it has occurred in the area of the pick. . . . compare with four or five other sections of the gear.



CHECK PICKING AREA for wear; the transmitter gear can be rotated 30 degrees clockwise on its mounting. Teeth in both gears should be parallel, and all motor mount and gear bolts should be tight.

CHECK CLUTCH PRESSURE next. . . by means of feeler. . . . drop wires make an excellent gauge. . .



oftentimes caused by faulty power transmission such as slipping clutch, and uneven wear of teeth on friction gear and drive gear are under better control. The periodic inspection, which is one of the few requirements of proper maintenance of the Diehl drive, would reveal trouble at this source before it became serious.

Safety Feature. Last but not least is the safety factor which protects fixers and other personnel from accidental starts while working on the loom for repairs—by the mere flick of the safety latch, which is not too much effort for the least safety-minded operative in the plant, protection is assured.

In the Diehl drive the full impact of the pick takes place on exactly the same teeth of the pinion and transmitter gears on each and every pick. Consequently we recommend making a periodic check of these gears to see if wear has occurred.

In our inspections we have found no wear that would necessitate rotating the gears. We have, however, turned a few gears just for the experience and for instruction purposes. The grease used and the methods of lubricating the unit are factors preventing wear.

90-Day Inspection. Maintenance of the drive is simple if the manufacturer's suggestions are followed closely. Here at Clinton Silk Mill we ascertain that all parts of the power train, especially the transmitter gear, are receiving proper lubrication. Our check on the drive at 90-day intervals is carried out as follows:

The transmitter gear is checked to determine if excessive wear has occurred in the area of the pick. We compare this area with four or five other sections of the gear. If no excessive wear is evident, we test the mesh of the gears by using a feeler to be sure we have between .002″ and .004″ clearance between teeth. If wear is excessive in the picking area, we rotate the transmitter gear 30 degrees clockwise on its mounting. Before passing this phase of inspection, be sure that teeth in both gears are parallel and that all motor mount and transmitter gear bolts are tight.

Next we check the clutch pressure. With the motor off and the shipper handle on, test the clutch gap by means of feelers. A gap of .005″ should operate the loom; if the gap is less, readjustment is necessary. The recommended setting for the clutch gap is between .010″ and .015″. Two .007″ drop wires make an excellent gauge for this purpose.

We have found that after a breaking-in period on new looms or new drives, slightly worn clutch facings and linkage have caused a change in clutch pressure, and adjustments are necessary. The sequence of checking and adjustment is as follows: (a) clutch gap; (b) clutch pressure; (c) brake release; (d) stroke of shipper.

(a) Instructions call for a 1/16″ clutch gap which is adjusted by means of two screws above and below the motor pinion. Turn these screws in or out an equal amount as indicated by the clutch gap gauge. If there should be uneven wear for some reason, compensate for the difference between the high and low gap by adjusting to an average of 1/16″. To check for this type of uneven wear, release the brake and turn the transmitter gear while observing the rim of the clutch plate through the port in the motor.

(b) To check the clutch pressure, put the shipper lever in "on" position with the motor off. Use two .007″ drop wires for a feeler between the pin and friction lever. If adjustment is necessary, loosen the lock nuts on the adjusting rod running between clutch lever and shipper lock. Make sure when tightening that the bearings are not cocked, thereby producing more friction by binding.

(c) Both brake release levers should be set so that the rolls or levers engage the loom front simultaneously. Adjustment is made on the long rod running from the shipper lever to the shipper lock, either making it shorter or longer to get the amount of throw for proper braking and brake release.

(d) Stroke of shipper. Since an overlock is engaged to keep the drive in power position, the last step is to check the stroke. For this purpose it is advisable to use the No. 1201 gauge inserted between the loom front and the brake release roller. Adjustments are made by means of the two bolts at the base of the shipper handles. Be sure that these bolts make contact with the bolts on protective knock-off.

CLUTCH GAP is adjusted by means of two screws above and below the motor pinion. . . turn screws in or out. . .

BOTH BRAKE RELEASE LEVERS should be set by aligning both handles by the set screws so that the rolls or levers engage the loom front simultaneously.

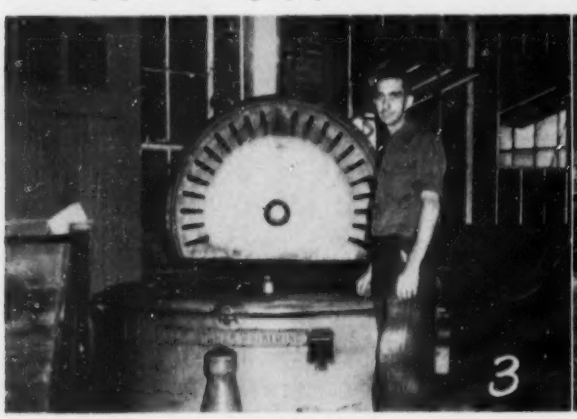
BRAKE RELEASE STROKE adjustment is made on the long rod running from the shipper lever to the shipper lock.

creeling, extracting, weaving, and

WRONG—A floor cluttered with empty or extra cones may mean a fall, resulting in injury to the creel operator.

RIGHT—Clean and uncluttered floors mean safe working conditions and, usually, greater efficiency.

WRONG—Operator standing beside centrifugal dryer with top open is inviting injury.



RIGHT—The lid on the centrifugal dryer should be secured in place, the safe way.

lifting the SAFE WAY

Photos courtesy C. H. Masland & Sons

WRONG—Weaver changes blade on pile fabric loom with no protection for face—inviting accident.

RIGHT—Same weaver, but much wiser, assures protection of face and eyes by wearing visor.

WRONG—Unevenly distributed load may cause physical injury to operatives performing manual operations.

RIGHT—Two men on each end balance the load and make lifting easy as well as preventing physical injury.

Here's how mill processing affects cotton

By Robert F. Schwenker, Jr., and John C. Whitwell
Textile Research Institute

EXCLUSIVE

DURING the past five years a comprehensive study of the changes occurring in cotton during normal textile mill processing has been in progress at Textile Research Institute (TRI). The work done to date has shown conclusively that the fundamental structure of cotton cellulose is significantly altered by the conventional mechanical processing involved in cotton yarn manufacture.

The possible importance to the man in the mill was pointed out most recently in this journal[2], wherein it was observed that "information on the effects of mechanical processing on the basic qualities of cotton is of practical importance, since any damage to the fibers or any changes in the cellulose in cotton that might occur during mechanical processing would be carried over into the textile products, and might reduce their usefulness." It is felt, however, that the significance of the effects alluded to in the foregoing statement may be inextricably involved with the effects of chemical or wet processing and that their combined effects must be ultimately considered in any evaluation.

The investigation of the effects of mechanical or dry processing has been substantially completed, and the results, summarized here, have been published as noted in Table I. The complementary study of the effects of chemical or wet processing was begun about a year ago and only partial results are available at this time.

Molecular Weight Changes. The determination of differences between samples was accomplished by comparison of viscometric measurements. The cotton samples were dissolved in cupriethylenediamine, and the viscosities (or fluidities) of the resultant solutions were measured at several different concentrations. The fact that cotton is for practical purposes pure cellulose and therefore classified as a high polymer enables one to use fundamental relationships applicable to such materials.

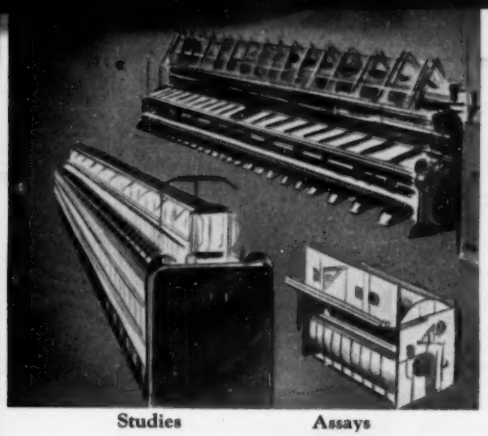
High polymer studies have shown the "intrinsic viscosity" of a polymeric substance to be roughly proportional to its molecular weight or D.P. (degree of polymerization). Therefore, the viscosity data obtained for cotton were used to calculate values of the "intrinsic viscosity" for all samples. This intrinsic viscosity, denoted by the symbol $[\eta]$, may be defined as a measure of the size of the dissolved polymer particle.

A given sample of cotton when in solution yields particles of a certain average size whose magnitude is reflected in the value of $[\eta]$. As long as the same conditions of experiment are maintained and the same solvent is employed, decreases in $[\eta]$ for the same material imply a decrease in the average particle size and therefore in the average molecular weight. Such changes cannot occur unless chemical degradation has also taken place.

Decreases in particle size and molecular weight are considered to result from chain scission, the actual rupture of chemical bonds holding the original structure to-

TABLE I

Cotton	$[\eta]$ Bale	$[\eta]$ Yarn	Wiley Mill Treated	Textile Research Journal Reference
Empire	26.8	20.7	No	19, 556 (1949)
Middling	26.1	21.7[5]	No	21, 556 (1951)
Stoneville 2B	23.8	17.8	No	23, 175 (1953)
Stoneville 2B	20.0	18.2	Yes	23, 804 (1953)



Studies Assays

cellulose

SUMMARY OF THIS REPORT

THE significance of the chemical degradation of cotton resulting from its mechanical processing in the textile mill is dependent upon the answers to three critical questions:

(1) Will a molecular weight difference between two cottons be preserved through the wet processing?

(2) Does the degradation due to mechanical processing affect qualities of yarn such as spinnability and uniformity?

(3) Does a fabric made of cotton having a high molecular weight consistently give better or longer service?

The results of the wet processing data discussed here indicate that cotton samples of different molecular weights before processing may be degraded to almost the same molecular weight level as a result of this processing. If this is the pattern for all wet processing regardless of conditions and liquor composition, then the degradation due to mechanical processing is of little practical importance. However, if a treatment that is mild in terms of degrading effect permits retention of the original difference, the importance is obvious. An investigation of the effect of a mild process and repeated washings on cotton samples of different molecular weights is under way at present.

A study pertinent to the second question has been recently completed at TRI, and the results will be published soon[1]. These results show that the more degraded cottons produce poorer yarns. This implies that an increase in fiber damage, produced by drastic dry processing techniques, will result in poorer quality yarns and in poor spinnability.

The picker beater experiments indicate that the large portion of the mechanical degradation caused by action of the beater can be reduced, if not eliminated, merely by the appropriate modifications in operating procedure, speeds, and machine settings.

On the basis of available information it seems probable that modified mechanical processing coupled with mild wet processing could produce a cotton fabric containing higher molecular weight cellulose than is found in similar materials today. It now remains for further research to determine whether such a fabric can be produced.

gether, and may be caused by either the physical treatment of mechanical processing or the chemical treatment of wet processing. Thus molecular weight may be considered to measure the "chemical quality" of the cotton cellulose, and any decrease in molecular weight resulting from processing must be viewed as a degradation of its basic material of construction—cellulose.

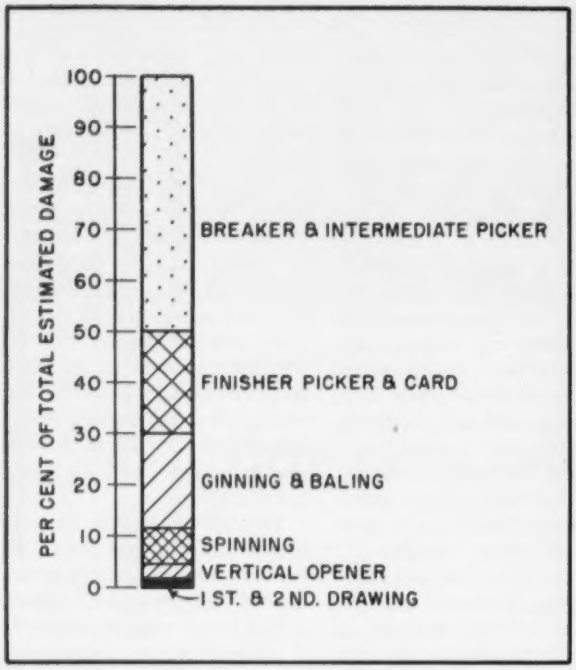
Although the degradation in dry processing decreases the molecular weight with only slight changes in the mechanical properties of the fibers, this initial degradation cannot be ignored. The reason is to be found in the apparent existence of a critical molecular weight range below which changes in mechanical properties occur rapidly[3]. Therefore, it is the decrease in molecular weight toward the critical range that is important—not the fact that the accompanying changes in mechanical properties are small.

Mechanical Processing

In 1949, Krieble and Whitwell of TRI presented the results of their investigation on the processing treatment of an Empire cotton which had been obtained from the Georgia Experiment Station of the Department of Agriculture. The cotton was processed in a standard manner at the Clemson Agricultural College, Clemson, South Carolina. The viscosity method used was not the ASTM standard but one specially designed for this work. It was thought at that time that the methods and techniques for the detection of changes might be critical, and this subsequently was shown to be true.

The observed decrease of about 23% in $[\eta]$ from bale to yarn could only be attributed to the mechanical processing. A large proportion of the degradation (50-60% of the total) appeared to be the result of action of the breaker, intermediate picker, finisher picker, and card as shown in Figure 1. Thus, the next phase of the study, reported in 1951, was undertaken to show the effect of the variables inherent to the action of the beaters.

Effect of Picker. The cotton tested was a Middling cotton from the central belt (Arkansas). A 16% decrease in $[\eta]$ was shown to result from a single pass through the carding beater at a normal operating speed of 1040 rpm and a setting of 3/32". In contrast, the degradation incident to a single pass through the blade beater at 1040 rpm and 3/16" was insignificant. This investigation also revealed



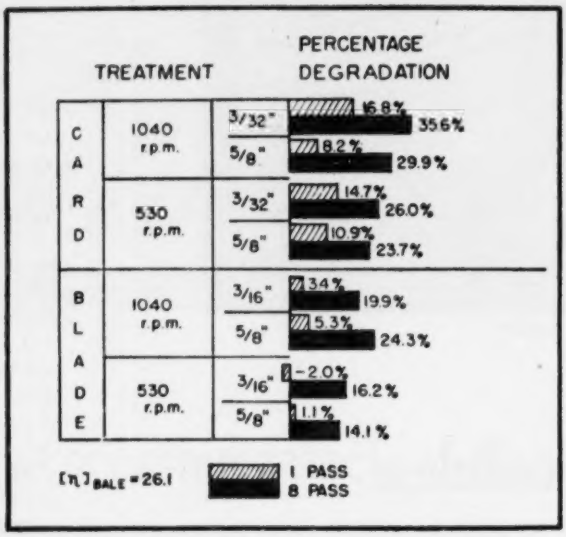


FIG. 2. Degradation indices as a function of type of operation. Degradation expressed as per cent of intrinsic viscosity of bale sample lost in each type of processing (carding type and blade type beaters).

FIG. 1. Per cent of total estimated damage attributable to individual operations.

that the degradation occurring was a function not only of the type of beater, but of the operating speed and setting; it was, of course, also dependent upon the number of passes.

In Figure 2 the results of this study are graphically illustrated. It will be noted that eight passes through a beater produced a severe effect. While as many as eight passes are never encountered in normal processing, it will be readily appreciated that the use of as wide a range of variables as possible is basic to the insurance of significant conclusions.

Study Substantiated. In 1951-52 a third study on another variety of cotton was carried out at TRI in order to provide a check on previous work and for the purpose of re-examining the techniques of difference detection. The results of this study were published in early 1953 and substantiated the earlier work in all respects. The cotton tested was Stoneville 2B, a medium staple cotton from Mississippi. The cotton was processed through a standard cycle at the Southern Regional Research Laboratory, U. S. D. A., in New Orleans, Louisiana. The $[\eta]$ value for the yarn samples was found to have decreased by approximately 25% from that for the bale samples as a result of mechanical processing.

Therefore, in three separate studies on three different cottons the data have been consistent in revealing a substantial amount of chemical degradation due to the mechanical processing of the cotton. This consistent 20 to 25% decrease in $[\eta]$ for all cottons tested implies that a significant decrease in the molecular weight occurred.

Other Studies Differ. However, another group[4] has investigated the degradation problem and obtained results at variance with those reported here. Their findings have appeared in *Textile Research Journal*[4] and were quoted in the December 1953 issue of TEXTILE INDUSTRIES, page 118. The results of recent experimentation at TRI suggest that the reason for the disparity in the findings of the two groups is largely due to the use of the Wiley mill in the preparation of samples for dissolution. The use of the Wiley mill had purposely been avoided in all work done at TRI since it was believed that this equipment must also be capable of producing degradation in cotton.

The subsequent study[5] made of the effects of the Wiley mill on cotton yielded an interesting result. It was determined that any sample in bulk form, such as a bale sample, was significantly degraded under any conditions of blades, screens, and blade settings for a single pass through the Wiley mill. However, yarn samples were found *not* to be significantly degraded. Thus, a partial explanation of the discrepancy is immediately apparent since this unusual effect would cause all bulk samples to be degraded during their preparation while the yarn samples, similarly treated, would remain undegraded. Therefore, the true difference between bale and yarn samples would be appreciably reduced. In Table I representative data from the various studies made at TRI are presented.

Chemical Processing

The Middling cotton studied for beater effect was used in the initial TRI study on chemical or wet processing. A standard wet process was used, which consisted of a kier boil (4 hours at 15 lb pressure) with 2% NaOH, a weak acid sour, and a peroxide bleach (6 hours at 80-85 C). This process was performed on a small scale which necessitated using the batch method. The amount of degradation, estimated

viscometrically, was quite large as shown by a decrease in $[\eta]$ of 55 to 70%. It was found that the bale samples suffered more degradation than did the yarn samples. This result caused the original 25% difference in $[\eta]$ to drop to about 5% after wet processing. However, in actual practice no standard process appears to exist. Conditions, liquor composition, and systems vary appreciably from mill to mill, often causing much less degradation than that reported above.

Degradation Varies. Bell and Stalter[7] made an investigation of the effects of several different wet processing systems of the continuous type. They tested samples of grey cloth from many different mills. Their results indicated a wide variation in the amount of degradation for methods currently in use. They also observed that some processes are in use which cause only slight degradation while producing cloth that measures up to the highest whiteness and absorbency standards.

Therefore, while the effect of a severe wet processing treatment has indicated in one instance that the major portion of the difference between two samples of different molecular weight may be eliminated, the effect of a mild wet processing treatment has not been shown. Unpublished data by another group of investigators[8] on the bleaching of similarly processed cottons with different initial molecular weights has indicated that the original difference in $[\eta]$ was preserved after the bleaching treatment.

1 W. T. Milloway, doctoral thesis in preparation.

2 TEXTILE INDUSTRIES, December 1953, p. 118.

3 Hermans, P. H., Physics and Chemistry of Cellulose Fibers, New York, Elsevier Publishing Company, Inc., 1949, p. 303.

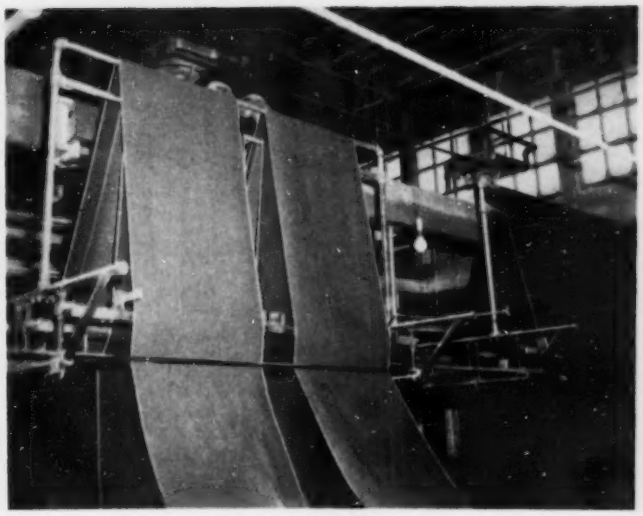
4 Conrad, C. M., and Rusca, R. A., Textile Research Journal 23, 168 (1953).

5 Schwenker, R. F., Jr., and Whitwell, J. C., Textile Research Journal 23, 804 (1953).

6 No yarn prepared; this figure represents the material, referred to earlier, which has had one pass through a carding beater.

7 Bell, T. E., and Stalter, N. J., American Dyestuff Reporter 41, No. 4, P110 (1952).

8 Helmut Wakeham, private communication.



Device Straightens Cloth

This arrangement of piping opens and straightens denim as it enters the sizing process at the Proximity plant of Cone Mills Corp., Greensboro, N. C. Installation of the device was suggested by Roland H. Jordan, of the finishing department at Proximity, who received a cash award under the Cone Mills' suggestion system for his idea.

New Yarn Form Produced by Special Crimping Process

A yarn that is "different from spun and different from filament" but "combines the advantageous features of both with added desirable characteristics distinctly its own" is being produced by an exclusive crimping process which his company controls, according to a recent announcement by W. R. MacIntyre, president of Joseph Bancroft & Sons Co.

Trade-marked "Ban - Lon," the yarn has "the smoothness of filaments with the softness of spuns, and when woven into fabric gives a new and distinct luxury, resilience, and warmth to the fabric," Mr. MacIntyre said.

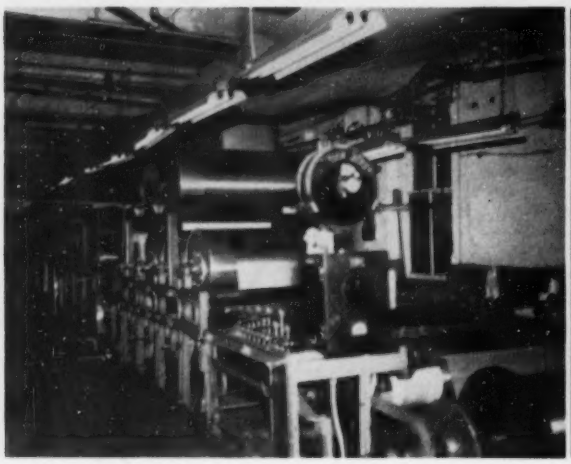
Ban-Lon is a new yarn form, rather than a new fiber, made by a process which, through controlled heat and pressure in a high-speed containing device, gives a permanent crimp to fibers, with a resulting advantageous bulk.

While the special crimping process can be applied to a wide range of fibers, both natural and synthetic, most of the production so far has been with nylon continuous filament yarn. Sample garments which have been produced from this yarn, such as socks, sweaters, shirts, sheets, etc., have all the advantages of nylon filament plus properties such as more bulk and less weight, warm and friendly hand, snug controlled-stretch fit, and shape retention.

Fifteen companies have been licensed to use the process, Mr. MacIntyre reported. Details are being worked out for rigid quality control of end-use products, he said, and in the meantime, none of the licensees will be assigned the right to use the "Ban-Lon" trade-mark except on products which have been individually approved by Bancroft.

Marketing activities for the yarn will be handled by the "Everglaze" Marketing Division, with field offices in New York, Los Angeles, London, Paris, and other principal cities.

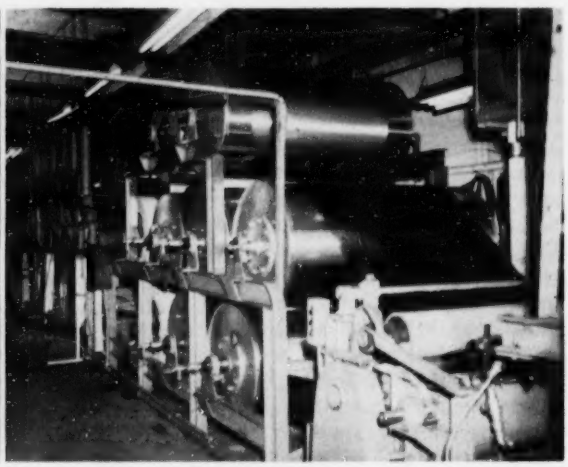
Mr. MacIntyre also announced that his company will license manufacturers to produce the special machines needed for the crimping process.



WARP DYEING RANGE from delivery end of machine. The range is 125 feet long and consists of a beam creel (at rear), a dyeing unit, and a 9-can slasher.

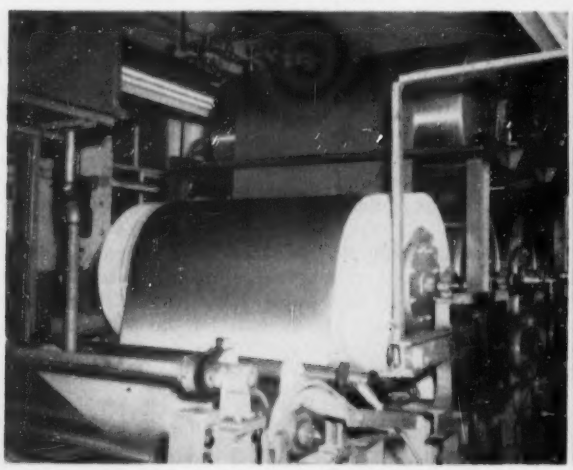
CREEL holds up to 12 section beams. These are supplied by the filament yarn producer or made to order in the mill.

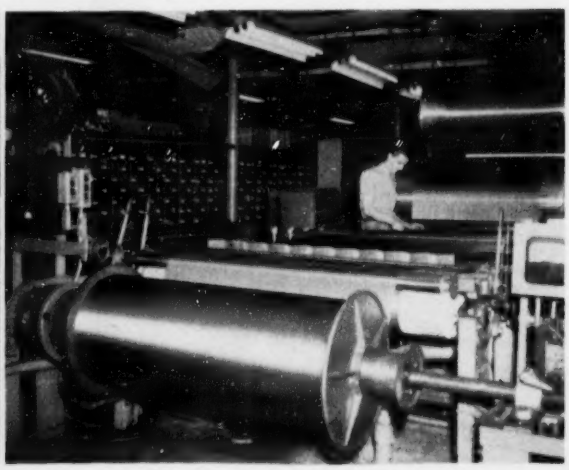
DYEING UNIT consists of a series of pads driven by synchronized motors. Roller pressures are controlled by the hydraulic system seen at upper portion of photograph.

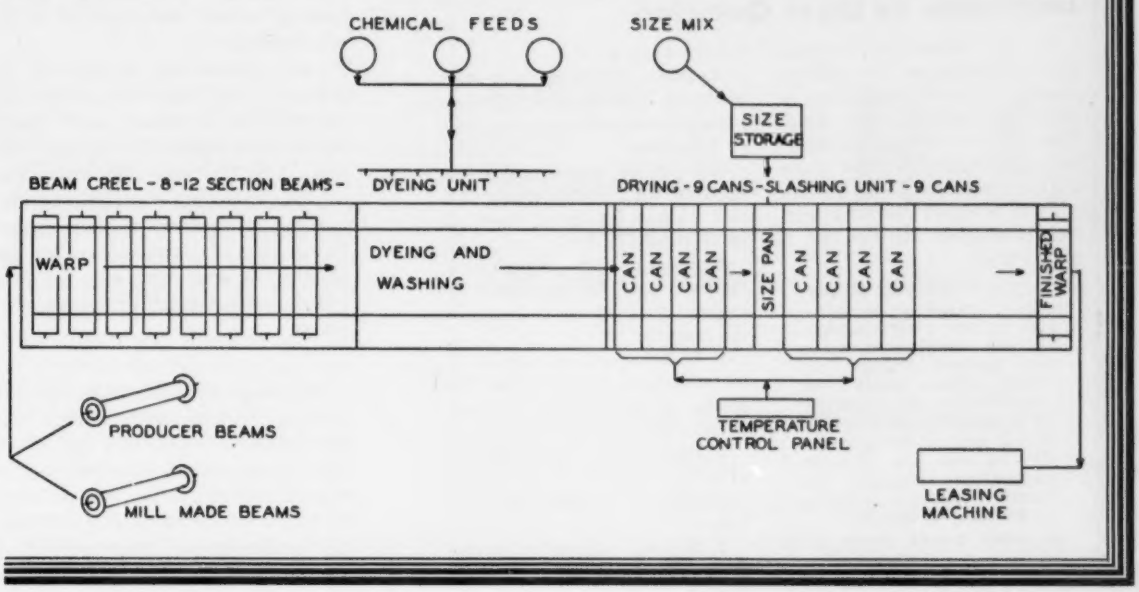


DRYING SECTION following the dyeing unit. Warp is entering size box of slashing section (lower right).

SLASHING is last step in the range (left). After leaving size box, warp is dried over 9 cans, passes through split rods and expansion reed (right), and is beamed onto the loom beam. Beam is positively driven by differential mechanism housed beneath range, which assures warps of uniform density.







One-Step Dye-Slash

Brawer Bros. Silk Co. combines beaming, dyeing and slashing—cuts costs 50%

Staff Prepared
EXCLUSIVE

THE WARP DYEING division of Brawer Bros. Silk Co., Hawthorne, N. J., has in operation a single piece of equipment that synchronizes beaming, yarn dyeing, and slashing at cost savings up to 50% of the conventional yarn dyeing and warping methods.

The machine was built and perfected by Brawer Bros. during the course of the last year and a half and represents one of the few machines of its kind in the world. According to Louis Brawer, company secretary, this machine is the only one available to the textile industry on a commercial basis.

The range is 125 ft. long. It is fed by rayon or Bemberg section beams in any denier from 100 up, and delivers a dyed and sized warp of uniform color and suitable beam density ready for placement in the loom. The machine operates at a speed of 20-30 yards per minute, each component of the range being positively driven by synchronized motors which are set into motion by a single control placed at 12 stations along the length of the machine. The finished warp emerges about 2 minutes after entering the first section of the machine.

Dyeing. The feed end of the warp dyeing range accommodates up to 12 cotton-system section beams. The warps are gathered at a hook reed, where a lease is taken to keep the yarn in an even sheet. This then passes into the dyeing unit of 10 pads, fed from the drug room by a series of kettles. Dye liquor and developing salts are fed from all or any one of the kettles interchangeably and can either be pumped into the pans of the pads or circulated between kettles and pans.

Temperature and level of liquid in the pans are automatically controlled by pre-set units on the dyeing section. Tensions and speeds are controlled by rheostats which adjust the speeds of the synchronized motors. Roller pressures are adjusted hydraulically at various valve points.

Generally, a series of pads are used to apply the dyestuff; other pads develop and catalyze the dyeing, and the dyed warp is thoroughly washed by continuously changing clear water in the last pads. A gutter leading to a sewer

Employer's Rights in Addressing Employees on Union Question

For the information of management personnel not entirely familiar with the provisions of the Labor Management Relations Act of 1947 (Taft-Hartley), the employer's right to engage in free speech with his employees on labor relations matters is part of the Act and is stated thus:

> "The expressing of any views, argument, or opinion, or the dissemination thereof, whether in written, printed, graphic, or visual form, shall not constitute or be evidence of an unfair labor practice under any of the provisions of this Act, if such expression contains no threat of reprisal or force or promise of benefit."

In other words, there is no limitation on the content or nature of statements an employer may express to his employees, so long as they are not coercive.

Following is a *partial summation* of the kinds of employer statements which have been held by NLRB or the courts to be privileged, either under the Wagner Act or the present Labor Management Relations Act, as prepared by the law department of the National Association of Manufacturers.

An employer may:

(1) Express his animosity to labor unions generally.

(2) Extol or justify wage policies or other company practices.

(3) Answer union arguments or charges.

(4) Explain that union membership is not a requirement for continued or future employment.

(5) Discuss union dues and the checkoff system.

(6) Discuss union tactics and election results in other plants.

(7) Express his desire to deal with employees personally and individually.

(8) Express his desire that employees vote against the union, and that it is to their benefit to do so.

(9) Make villifying and disparaging statements against unions, their organizers, or other adherents.

(10) Advise employees as to some of their rights under the Act without informing them as to all such rights.

Examples of *permissible methods* used by employers to express their views to employees include:

1. Distribution of copies of statements to employees in the plant, or the placing of such statements on bulletin boards.

2. Distribution to employees of sample marked NLRB ballots respecting a forthcoming election.

3. Mailing copies of statements to employees at their homes.

4. Publishing statements in newspaper advertisements.

5. Conversations with employees, or small groups of employees, in the plant.

6. Conversations with employees individually or in small groups in employer's office and visits to homes of employees by company officials or supervisors for purpose of individual discussion regarding desirability of union organization.

7. Speeches to employees generally during working hours.

8. Statements, speeches and conduct of third parties, not coercive nor containing any threats of reprisal or promise of benefit, are likewise protected under the free speech amendment. Even if coercive, however, such expressions of third parties may not serve as ground for unfair labor practice findings against an employer unless an agency relationship is established or it is shown that the employer aided, abetted, assisted, or cooperated with such third parties.

Source: "Hosiery News Letter" of Feb. 19, 1954.

outlet catches any spill-over beneath the dyeing unit.

Drying. The warp comes out of the dyeing section wet, under minimum tension, and enters the drying unit. This consists of nine steam heated cans, each of which is provided with a diaphragm valve (described on page 104 of the February, 1954, issue of TEXTILE INDUSTRIES), preventing overheating when the machine is on slow speed.

Can speeds are controlled by rheostats, and temperatures are adjusted from a master panel board which also houses drying can controls for the slashing unit. The various rheostats controlling roller speeds throughout the range are key points of compensation for the sagging of wet yarn, also for providing a 4% stretch in the finished warp.

Slashing. The warp leaves the drying section and enters the slashing unit, where size is applied. The size pan feed is automatically maintained at a constant level after having been pumped from a mixing kettle in the drug room to a storage tank near and above the slashing unit. The solution is automatically held at a uniform level in the size pan, and the temperature is controlled.

Can speeds are controlled by a rheostat, and temperatures of the nine cans are regulated from the control panel as previously mentioned. The dyed and sized warp, now dry, passes through a series of split rods, enters an expansion reed, and is taken up on the positively driven loom beam. A warp of uniform density from the inside out is assured by a differential drive housed beneath the range. The warp is checked for color at regular yardage intervals by removing a spare end from the delivery end of the machine and comparing it with the matching sample and samples from previous sections of the warp.

Other operations. Two auxiliary operations can be performed in connection with this process. One utilizes a 1000-end creel and high speed warping unit to prepare section beams from customers' yarn to their specific requirements. Another is the use of a Swiss leasing machine which puts a cross in the finished warp.

Besides the solid color warp dyeing in direct and developed types, the machine is capable of dyeing a large variety of striped patterns on the warps.

By P. H. Margulies
Buffalo Electro-Chemical Co., Inc.

Wool dyers and finishers....

have you investigated the versatility of **H_2O_2** (Hydrogen Peroxide)

It replaces mercury salts in carroting of hair fibers,

improves fulling properties of wool,

reduces chlorine uptake of wool in shrink-proofing,

promotes uniform dyeing of wool-cotton blends.

FOR BLEACHING wool, the use of peroxygen compounds is well-known, but these compounds are also useful in several other processes for the modification of wool, including carroting, fulling, shrink-proofing, and dyeing.

Carroting is a special treatment used to impart improved felting properties to animal fibers, whose natural felting properties vary considerably with the type of fiber. Hair fibers—of paramount importance in the making of hat felts—show very little felting ability and require carroting. High grade wool will form a felt without such treatment, but lower grades and reused wool can be greatly improved in this respect by carroting.

Carroting is, in effect, the oxidation of the fiber under carefully controlled conditions. When applied to the wool fiber, carroting solutions containing acids and an oxidizing agent such as hydrogen peroxide cause limited breakdown of the cystine bridges. The elastic and plastic properties of the fiber are thus increased. The carroting solutions, however, are applied to the tip part of the fiber only, giving differences in plasticity along the length of the fiber.

It is these differences, primarily, that impart felting properties to otherwise badly felting fibers. If such fibers are totally immersed in a carroting solution, fairly uniform plasticity changes occur over the entire length of the fiber, and the felting ability is only negligibly improved.

Fulling is basically a mechanical process, making use of the fact that wool fibers, when subjected in the wet state to mechanical strains and stresses, are able to interlock and form a felt. If applied to a loose mass of fibers, such an operation would yield a shapeless felt; applied to a woolen fabric, where the twist of the yarn and the construction of the fabric limit free movement of the individual fibers, a finished piece of woolen cloth with the familiar dense and lustrous surface will result.

Fulling can be done only if the fibers are swollen to the proper extent. In the swollen state, the fibers have reduced elasticity, and increased plasticity — a change which permits the fibers to felt. Wool fibers attain this swollen state when immersed in water not much above room temperature; but to facilitate the process, lubricants such as ordinary soap are added to the water.

The soap also provides a small amount of free alkali, which promotes further swelling. Usually, fulling is done simply by using an aqueous soap solution in a machine where the piece of fabric undergoes a regulated squeezing action. Reciprocal movement of the swollen fibers causes them to interlock and form the desired surface felt.

Various suggestions to improve the standard method have been offered. One recommendation is based on the fact that acid solutions of hydrogen peroxide will promote felting of wool, whereas alkaline solutions of hydrogen peroxide will reduce felting. Whether these solutions are acid, neutral, or alkaline, the hydrogen peroxide present will oxidize certain parts of the chain molecules that build up the wool fiber.

In alkaline solutions, the overall effect is a great increase in plasticity and a decrease in elasticity of the fiber. In acid solutions, however, there is an increase in plasticity, but only a small decrease in elasticity; at the same time, the swelling ability is substantially increased. Therefore, suitable treatment of wool with acid solutions of hydrogen peroxide will improve both felting and fulling.

This reaction is used in carroting, and in fulling poorer grades of wool and relatively light weight woolens of open construction. The same reaction aids in the fulling of fabrics that have lost some of their original fulling ability as a result of various treatments—treatments such as certain dyeing procedures where mordants are used, or dyeings made with chrome colors.

A typical process for improving the fulling properties of a wool with hydrogen peroxide consists of treating the wool in an aqueous solution containing about 4 g. of sulfuric acid and about 6-7 g. of hydrogen peroxide 35% per liter of solution, together with minor amounts of metal catalysts. (As catalysts, various polyvalent metals, such as chromium, cobalt, and

The substance of Dr. Margulies' remarks on hydrogen peroxide was also presented by him at a meeting of the Inter-State Textile Association.

copper, have been found suitable.) The treatment is carried out for a number of hours at room temperature, and is followed by conventional fulling.

Shrink-proofing consists essentially of either modifying the surface scale structure, or of modifying the elastic properties of the wool fiber. Often the two reactions overlap; but in every case, the reduced felting is due to an increased resistance of the fiber to deformation and a reduced power of elastic recovery. Thus, fiber elasticity must be reduced without substantially increasing fiber plasticity.

The surface structure is modified by masking the scales of the wool fiber—by depositing on them a film of metal hydroxides, or by mechanically abrading the surface scales. Most modern shrink-proofing processes, however, rely on chemical modification of the elastic properties of the wool. Chlorination of wool is generally the basis of these processes, but oxidizing agents such as hydrogen peroxide and peracetic acid also affect the felting properties. While acid solutions of hydrogen peroxide tend to promote felting, alkaline solutions tend to reduce felting and promote shrink-resistance.

Alkaline solutions of hydrogen peroxide will cause damage to the wool if the temperature and pH are too high. Even properly made up bleach baths, as commonly used for wool, can reduce tensile strength, despite conditions thought favorable by a wool bleacher. Such damage may be repaired by treatment of the wool with certain chemicals, particularly formaldehyde or mercuric acetate. Under proper conditions, mercuric acetate can even increase the tensile strength.

In the chlorination of wool for shrink-proofing, the chlorine uptake of the wool can be reduced by pretreating the wool with hydrogen peroxide. This pretreatment is done with an approximately 1% hydrogen peroxide solution containing a small amount of mild alkali. The wool is treated at room temperature for one or two hours and then washed. The treated wool takes up only about half as much chlorine as the untreated wool.

Because a limited amount of shrink-proofing will result from hydrogen peroxide treatment alone, there is a possibility of combining chlorine and peroxide treatments. One suggested method is that chlorine be used first for part of the treatment, followed with the hydrogen peroxide treatment to obtain the desired effect. This method is used in the Schollerizing process, where the essential chlorination step is carried out under milder conditions if the treated wool is to be bleached later with hydrogen peroxide. The first step does not have to give the total amount of shrink-proofing, because additional shrink-proofing is obtained in the bleaching step.

Dyeing properties of wool are also affected by hydrogen peroxide. Treatment of wool with moderately dilute hydrogen peroxide solutions at about neutral pH reduces the acid combining capacity of the wool by as much as 50%. The affinity of the treated wool to acid dyes is also correspondingly reduced. This fact is used in a process to produce uniform dyeings with insoluble azo dyes on mixed fabrics containing wool and cotton. For this purpose, it is recommended that the fabric be pretreated with a hydrogen peroxide solution containing sodium pyrophosphate.

When difficulties arise in dyeing wool that has been shrink-proofed by chlorination, and consequently has reduced dyeing properties, these difficulties are often overcome by treating the chlorinated wool with hydrogen peroxide. This treatment may be carried out with a hydrogen peroxide solution of about 0.3 to 1% concentration, adjusted with a phosphate to pH 9.5 to 10. Treatment is for three hours at about 40 C.

Undesirable effects on the dyeing properties of wool may result if residual hydrogen peroxide—absorbed by the wool in the course of certain bleaching operations—is not removed completely before the wool is placed in the dye bath. On the other hand, hydrogen peroxide is an excellent agent for the oxidation of vat dyes on wool.

INCREASE

This idea came from the general manager of a progressive cotton mill as an entry in one of TI's Kink Contests. For details of contest now under way, see page 139 in this issue.

EXCLUSIVE

A CARD coiler calender roll sliver compression device has increased the can content on Whitin cards about 20% in one Georgia mill. The increase would run about 30% to 35% on cards which are not already equipped with compression springs on the large calender rolls, according to the general manager of this mill.

The idea of compression is not new, but experience in this mill has shown that this device may be applied successfully to the Whitin, H&B, and old Lowell card coilers. The change is easily made.

The calender rolls (see parts in accompanying illustration) are drilled out and two ball bearings (one open and one sealed on one side) are spaced far enough apart to permit packing with a reserve supply of grease. These bearings are pressed into the roll. The two bearings carry a stud which is a press fit into the bore of the bearing, and each stud protrudes about one inch with a shallow groove near the end to hold in place a common coil spring of 100 lb. compression. The coil spring holds the two rolls together (see accompanying illustration), thus compressing the sliver.

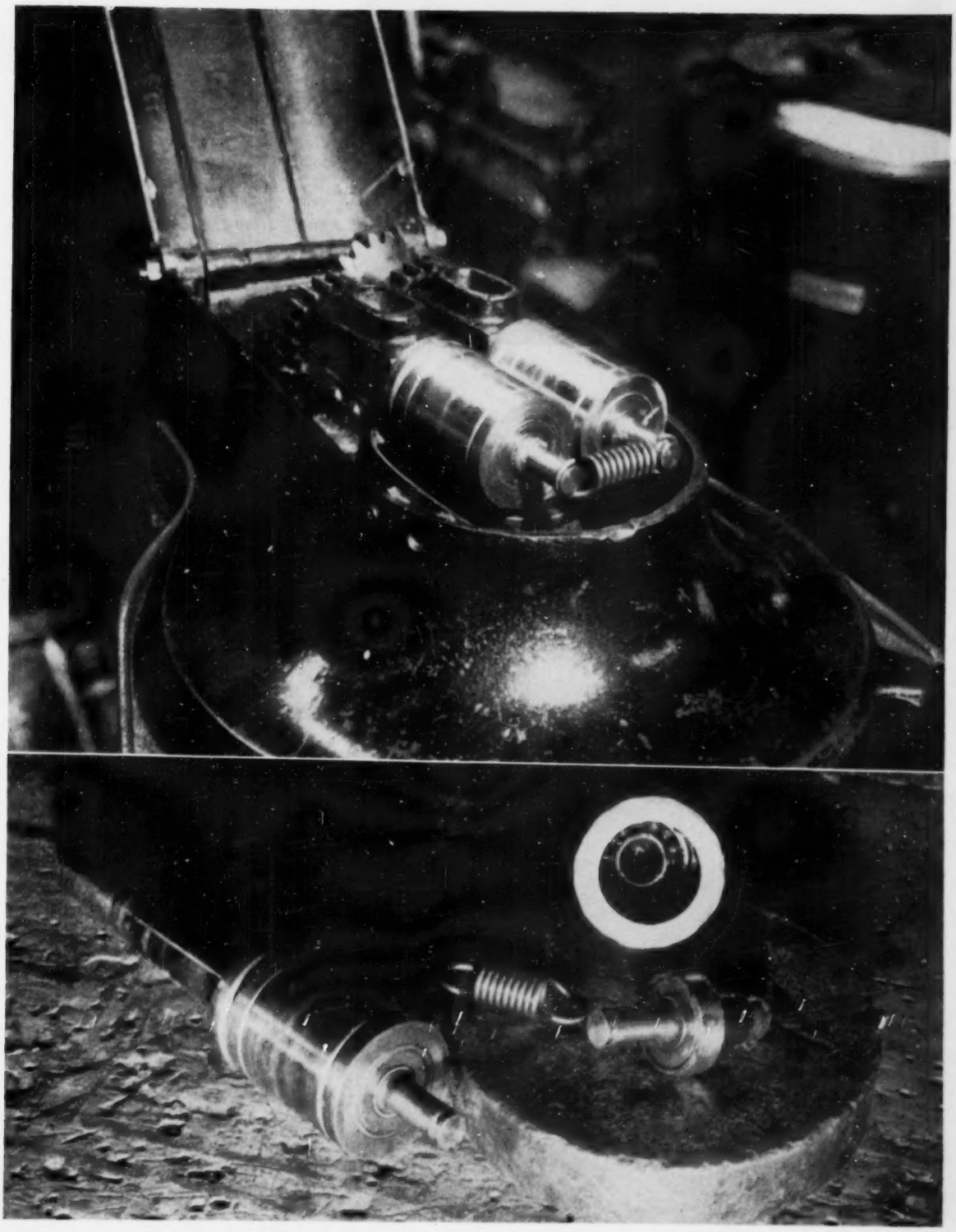
The cost per card in this mill has been as follows:

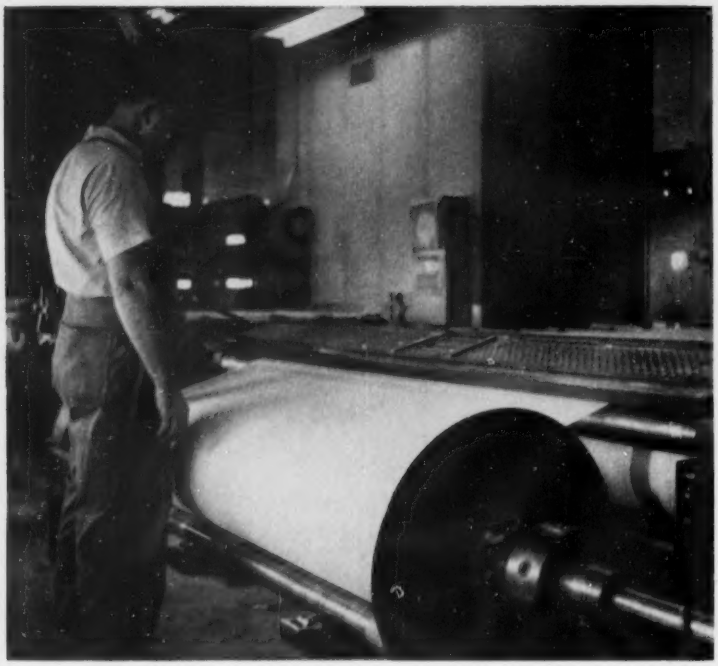
Two 202KD bearings or equivalent	$2.36
Two 202K bearings or equivalent	2.22
One spring	.17
Two calender rolls new, two studs furnished and assembled	8.75
Total	$13.50

The changeover has been trouble-free and well worthwhile in this mill, according to observations of the general manager.

CAN CONTENT 20%

sliver compression





← **AT JOANNA** Cotton Mills, Guy Floyd is shown inspecting a warp being run on an Uxbridge slasher he operates. Note the roller guard immediately above the warp. The guard protects both operator and rollers. This guard was made in the mill shop and consists of an angle iron frame covered with a heavy gauge wire mesh. The guard is hinged at the rear so that the operator may have easy access to the rollers in case of lap-ups.

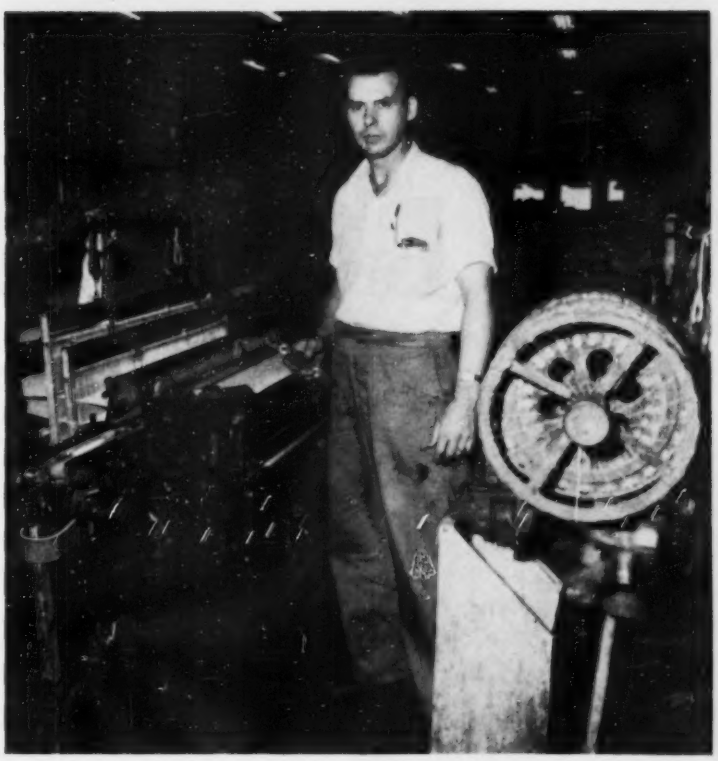
minor changes

← **L. L. THOMAS,** slasher tender, appears with a device he developed to aid in slashing warps with comparatively low numbers of ends. When a 40-inch warp containing 800 ends (compared to an 80-sley warp containing 3200 ends) was run, trouble was encountered at the slasher; namely, break backs, low efficiency, and poor warps. The device shown was attached to the size box so that the yarn leaving the creel would pass over it and into a number of flat "ropes" containing a larger number of ends per inch to better withstand the strain of slashing. The slasher comb again spread the yarn into an even sheet. Slasher efficiency was improved, and higher quality warps were produced upon using this device.

Weaving

TOM WERTZ is shown examining one of the lathe chucks which have replaced the old type loom beam journal holders on Joanna Mills' slashers. These chucks insure that the loom beams will run concentricly without regard to the diameter of the beam journals. Old type holders were made of pipe, and sometimes an eccentric motion was imparted to the beam, producing uneven tension on the yarn and thereby making bad warps.

—big difference



PAUL HAZEL invented an attachment for E Model looms and has reduced waste and damage in weaving 43-inch cloth on 42-inch looms. 43-inch cloth ballooned, bringing the selvage into contact with nuts on the cloth block, causing as much as 50 yards of waste cloth on a roll. Cloth tubes were ruined frequently. The rocking action of the cloth roller wore the cloth stand bushings excessively. A metal strip seven inches long and ¼-inch thick attached to the surface of the cloth stand solved the problems. The strips are wider than the cloth stand grooves, holding the stands in one position, preventing vibration, and decreasing wear on the bushing. The strip is attached with countersunk bolts to prevent damaged tubes and cloth.

POINTS OF WEAR noted by fixers constantly on patrol are double-checked by superintendent who prescribes weekend remedy. If trouble is producing seconds, the machine is fixed without delay.

HE LOOKS FOR

Staff Prepared

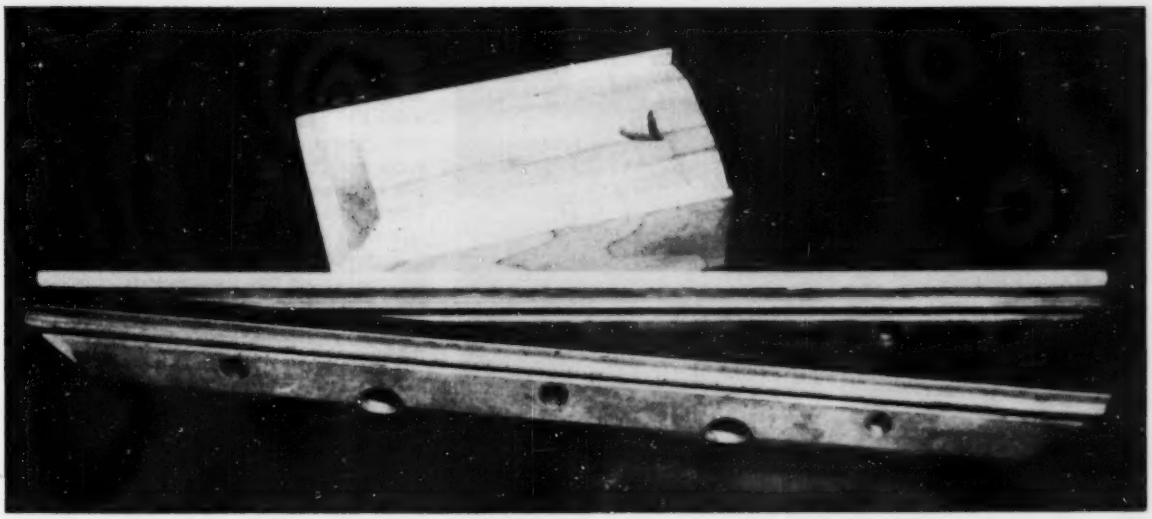
EXCLUSIVE

DOVEDOWN Hosiery Mills, Griffin, Ga., has a systematic maintenance program which permits almost full time operation of 60-gauge full-fashioned machines with a minimum of shutdowns for repairs. This mill looks for symptoms of trouble before trouble occurs, and records are made of all difficulties or symptoms.

Patrol Inspection. For example, verge plates often may cause streaks in stockings by having a slightly worn place on the wearing surface. These worn places are observed by the fixers who continually patrol the machines, checking the fabric and machines as they walk around. Worn verge plates are promptly replaced on the weekend. On patrol, the fixers also look for worn cams, menders, bad sinkers, bad sliders, bad knock-over bits, bad yarn, cleanliness of machine, tension on friction, tension on yarn, and any other parts or conditions which may adversely affect quality or production.

Weekend Repair. Machines are gone over thoroughly on weekends, and all defective or worn parts noted during the week are closely examined, repaired, adjusted, or replaced.

Weekend Cleaning. A cleaning schedule is also executed on weekends by a cleaning crew. This crew uses rags and cleaning solvent and cleans each entire machine, starting at the top and going down to the floor level. Four men work on



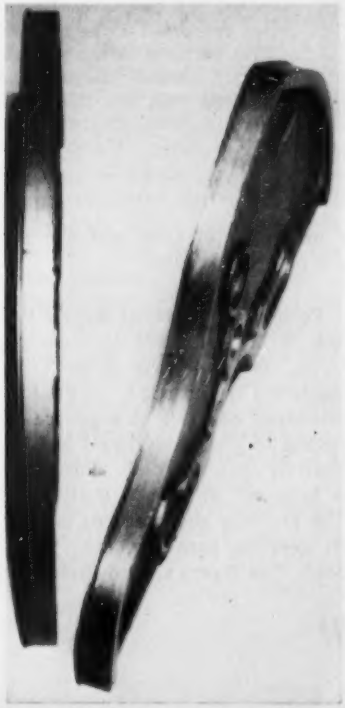
WORN VERGE PLATES often cause streaks in stockings. Lower verge plate shown here was removed upon showing signs of excessive wear. Old verge plates are renewed with nylon wearing surface as shown on the upper plate here.

DEFECTS ARE NOTED on this form in code. Horizontal numbers (1 through 30) are provided for each individual head. Left vertical column indicates number of sets. Right vertical column indicates number of stockings per set. Knitters and fixers note difficulties in code. For example: on set No. 12, head No. 7 made a press off on welt as indicated by the A.

Manzum Knitter | 7 Machine | 1st Shift | Date

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
1																															30
2																													B		29
3																															30
4																															30
5										3/A																					29
6									1/6																						29
7																															30
8																															30
9																															30
10																															30
11																															30
12							A																								29
13																															30

WORN CAMS are discovered and removed before wear is sufficient to cause serious trouble.



TROUBLE

each machine simultaneously. The cleaning operation is done on a weekly basis, regardless of whether repairs are needed or not. If a machine should require repairs or adjustment, it is fixed first, then cleaned.

In making regular rounds, if a fixer observes a trouble sympton, he makes a note of the detail and places the note on the superintendent's desk. If the trouble is making seconds, the machine is stopped for repairs or adjustment at once.

Every morning the superintendent surveys the fixers' notes, checks the machines to verify the notes; then he adds the notes to the master list for the weekend fix. In this way the minor jobs are arrested and never become major jobs. Also, there is a minimum of shutdowns while the machines are on scheduled production. When the weekend arrives, the superintendent assigns the jobs to several fixers by referring to his record. In this way the fixers are on weekend duty for only

Navy Develops Fabric Drape-Flex Tester

A device which measures how a fabric will drape under its own weight and how stiff it will feel when flexed by hand is known as the Drape-Flex Stiffness Tester and was developed at the Clothing Supply Office, United States Naval Supply Activities, New York, under the direction of Jack J. Press, fiber specialist.

In carrying out the test, a narrow 6-inch strip of fabric is projected out horizontally over a platform until the free end of the test sample drops down, under its own weight, to a prescribed angle. Drape stiffness is one-half of the projected length of fabric as read directly from a scale. This value when combined with the weight of the sample in a suitable formula gives flex stiffness, the resistance of the fabric to flexing when supported in the hand.

Flex stiffness values with the standard tester have been measured from less than 0.1 x 10^{-4} inch-pounds for plastic film 0.00025-inch thick, up to about 35 x 10^{-4} inch-pounds for the Navy's 30-ounce kersey overcoat fabric and 80 x 10^{-4} inch-pounds for plastic film 0.005-inch thick. This latter value is far beyond the maximum stiffness for apparel fabrics. For non-apparel materials of still greater stiffness, measurements can be made by increasing the length of the sample strip and attaching a slope extension to the standard tester. A flex stiffness value of 600 inch-pounds was obtained with a 10" strip of reinforced plastic 0.014-inch thick.

The stiffness tester is now described under Method 5206 of Federal Specification CCC-T-191b, Textile Test Methods. A recent study by the Army (*Textile Research Journal* October 1953, pages 743-8) has shown the tester to be accurate, simple, easy to operate, and very fast.

1953 Rayon Staple Imports Equal 1952

Imports of rayon staple in 1953, according to the "Textile Organon," amounted to 68,117,000 pounds, a figure almost identical with the 68,190,000 pounds imported in the previous year. The total of non-cellulosic staple imported amounted to 594,000 pounds and this was made up almost entirely of Perlon from West Germany. In 1952, the non-cellulosic staple imports totaled 914,000 pounds.

Imports of man-made filament yarn last year totaled 768,000 pounds compared with 286,000 pounds in 1952 and 5,081,000 pounds in 1951. Switzerland was the source of about two-thirds of the filament yarn imports and most of the balance came from Canada, the Netherlands, and Italy. The great bulk of filament yarn brought into the country, according to the Organon, is believed to be viscose rayon.

The United States, exporting 10,000,000 pounds of man-made filament yarn in 1952, proved itself a net exporter of such yarn by some 9,200,000 pounds. On the other hand, it was a net importer of man-made staple in the amount of 61,900,000 pounds. On total balance of both types of man-made fibers, the United States was a net importer by 52,700,000 pounds which compares with 55,000,000 pounds in 1952.

a minimum of time and the jobs are divided evenly.

Permanent Machine Repair Record. A book is kept on each machine, and anything done to the machines is recorded. The superintendent can tell at a glance the record of each individual knitting head on each machine. This record is kept by shift on a daily basis. The knitters keep records of broken needles, menders, etc., in this book. The fixers record their work also (see illustration on page 117).

A system of code letters is used in the book as follows:

A—Press off on welt
B—Press off in leg
C—Press off in splicing
D—Picot holes
E—Narrowing holes in flair
F—Narrowing holes in leg
G—Narrowing holes in foot
H—Head cutting holes

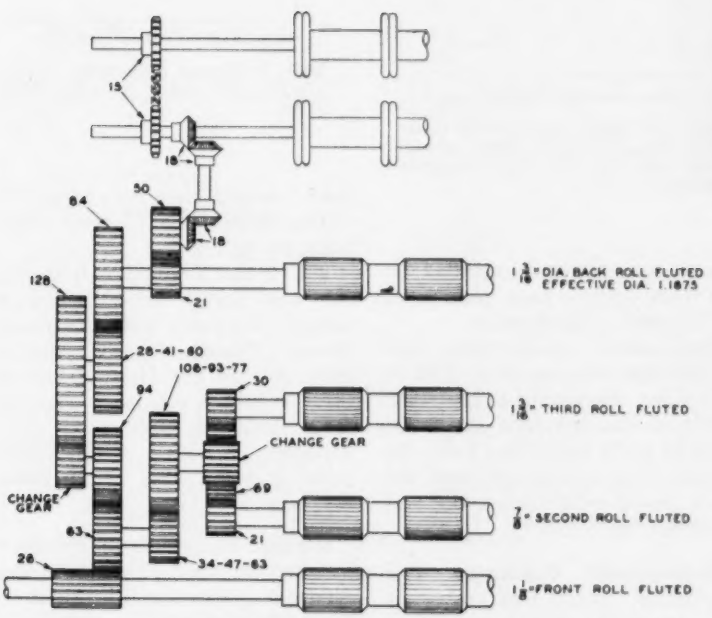
The fixer simply writes on the form a brief explanation of what he had to do to fix the machine. This record serves to indicate knitter performance, machine performance, parts consumption, and indicates what steps should be taken to improve production and overall performance.

A form is also kept to show how many bad stockings each knitter makes on a daily basis. Each week names of the high knitter and low knitter are posted. This makes employees competitive and improves quality of work.

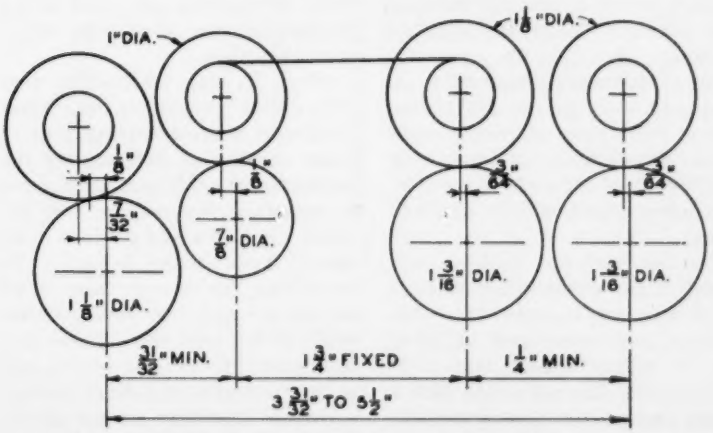
roving uniformity

how draft distribution on the J-3 slubber affects it

By T. A. Hendricks
Associate Professor of Textiles
School of Textiles, Clemson College



DRAFT GEARING assembly, Saco-Lowell roving frame, Model J-3.



ROLL SPREAD and relative position of rolls on the J-3 frame.

EXCLUSIVE

AT THE turn of the century, all roving frame drafting elements were of the conventional 3-roll type. It was standard practice at that time to draft 1.08 or less between the middle and back rolls, which is the so-called break-draft zone. Since the roving process at that time consisted of two, three, or four frames, there was seldom a necessity for drafting over 6 on any one frame in order to be able to deliver to the spinning room the correct size roving. With drafts this low, there was never a question as to the correct distribution between the two drafting zones. The break draft was deliberately kept low on the four roving frames.

The following quarter of a century saw vast improvements in testing and production methods and equipment. Throughout these years the break draft on roving frames gradually increased, until in the 1920's it had reached 1.22, and in some cases higher.

Higher drafts in spinning proved so successful that the same idea was soon adopted for roving frames. The three major manufac-

turers of spinning machinery at that time, Saco-Lowell, Whitin, and H & B, all introduced long-draft roving frames in the 1930's.

Modern roving frames are capable of drafting up to 40 or higher, with the more common drafts in the range of 10 to 30. With such a large increase in total draft, the problem of distributing the draft between the two main drafting zones, which are common to all present-day frames, is inevitable.

Little has been published on this problem, other than recommendations by machinery manufacturers in their handbooks. One article by James P. Corley of the Southern Regional Research Laboratory (see TEXTILE INDUSTRIES, March, 1949, p. 110) dealt with the Whitin Super-Draft roving frame. He found that roving uniformity was improved by increasing the weight on the top rolls, and by proper distribution of drafts in the two drafting zones.

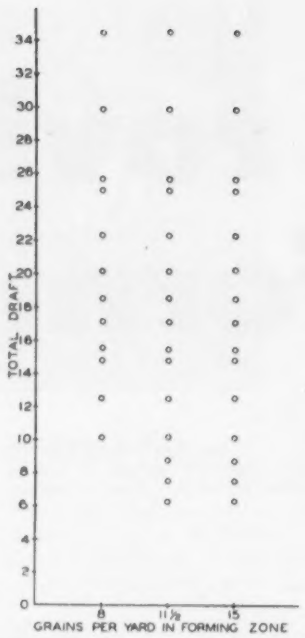


FIG. 1. Tests made with 1.00, 2.00, 3.00, and 4.00 hank roving; from 42, 52, 62, and 72-grain slivers.

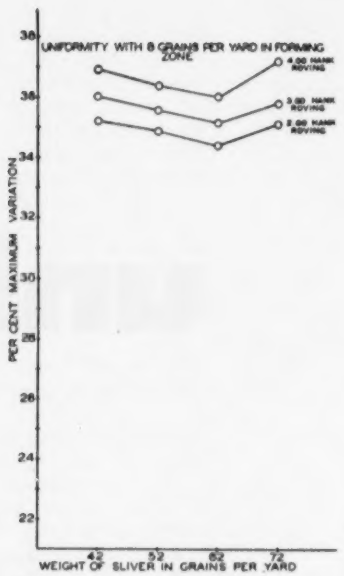

UNIFORMITY WITH 8 GRAINS PER YARD IN FORMING ZONE
4.00 HANK ROVING
3.00 HANK ROVING
2.00 HANK ROVING
PER CENT MAXIMUM VARIATION
WEIGHT OF SLIVER IN GRAINS PER YARD

FIG. 2. Roving uniformity with 8 grains per yard in condensing zone.

J-3 Roving Frame. The Saco-Lowell J-3 roving frame has a 4-roll drafting assembly (see page 119). The fibers are condensed by means of a forming trumpet, which is so designed that a maximum of 15 grains per yard of stock can be successfully passed through this zone.

The J-3 frame has two draft constants, but only one of the two draft change gears will change the total draft. The total draft change gear drives only the back roll; a change in the size of this gear will change the draft in the rear zone only. The so-called front draft gear drives both the second and third rolls, and can be considered as a draft distributing gear instead of a draft change gear, since a change in its size will not change the total draft.

When the hank roving or sliver is changed on a Model J-3 frame, it is also necessary to change the front draft gear in order to maintain the correct weight of cotton in the trumpet. This is because a change in the total draft will produce an inverse change in the speed of the back roll and consequently increase or decrease the weight of stock entering the trumpet. To compensate for this, the speed of the third roll and second roll, which is affected by the front draft change gear, must be changed in proportion.

Saco-Lowell recommends that for rovings ranging from 1.00 to 2.50 hank, the weight of the stock in the condensing zone should be from 12 to 15 grains per yard. On rovings from 2.50 to 5.00 hank, the stock should weigh between 8 and 12 grains per yard.

Experimental Conditions. For this study, Acala 4-42 cotton of 1⅛-inch staple length was processed in the normal manner through opening, picking, carding, and drawing. From the finisher drawing, 42-, 52-, 62-, and 72-grain slivers were delivered to be processed through the J-3 roving frame. Four sizes of roving were made from each of the four weights of sliver fed. These rovings were 1.00, 2.00, 3.00, and 4.00 hank.

For each of the rovings produced, three weights per yard of stock passing through the condensing zone were used: 8, 11½, and 15 grains; except that 1.00-hank roving was not made with 8 grains per yard in the condensing zone, since a front draft of less than 1 would have been required.

The distribution of tests made is shown in Fig. 1.

All of the production from the J-3 was tested under standard conditions on the Uster Evenness Tester. Three 10-yard samples were run on the Uster tester at three different points on each of three different bobbins for each variation. In other words, each point is an average of 27 Uster readings.

Results. The effect of different weights per yard of stock in the condensing zone is illustrated in Figs. 2 to 5. For each of the four rovings, uniformity was better with 11½ grains per yard in the condensing zone than with either 8 or 15 grains.

After it was established that 11½ grains per yard is the correct weight in the condensing zone, a quick method of determining the proper front draft and draft gears to maintain this weight was devised. Fig. 6 is a plot of front draft against hank roving delivered. To determine the proper front draft to use for any size roving delivered, from any size sliver fed, first select the desired roving size at the bottom of the chart. Follow vertically from the proper size to the diagonal line. From this point

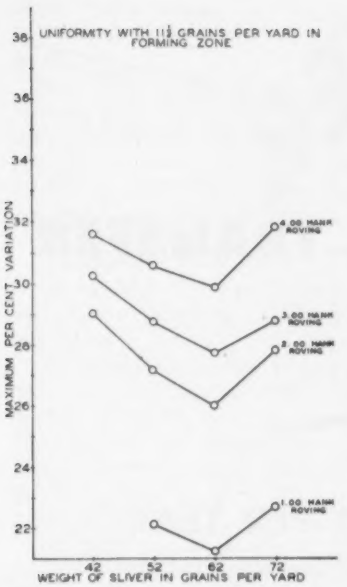


FIG. 3. Roving uniformity with 11½ grains per yard in condensing zone.

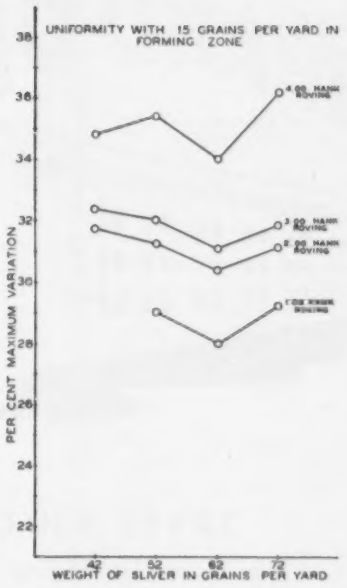


FIG. 4. Roving uniformity with 15 grains per yard in condensing zone.

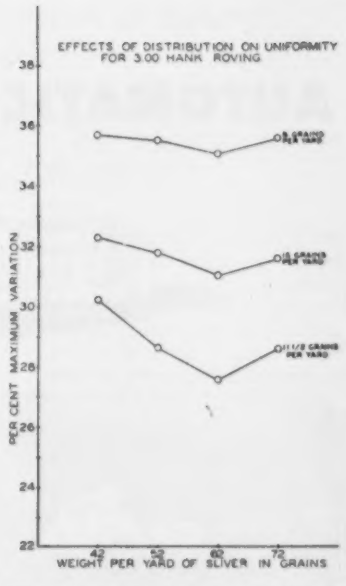


FIG. 5. Effect of sliver weight on uniformity of 3.00-hank roving.

TABLE I

Front Draft Gears

Front Draft	Front Constants		
	80	129	204
1.30	62		
1.40	57		
1.50	53		
1.60	50		
1.70	47		
1.80	44		
1.90	42	68	
2.00	40	65	
2.10	38	61	
2.20	36	58	
2.30	35	56	
2.40	33	54	
2.50	32	52	
2.60	31	50	
2.70	30	48	
2.80	29	46	
2.90	28	44	
3.00	27	43	68
3.10	26	42	66
3.20	25	40	64
3.30	24	39	62
3.40		38	60
3.50		37	58
3.60		36	57
3.70		35	55
3.80		34	54
3.90		33	52
4.00		32	51
4.10		31	50
4.20		31	49
4.30		30	47
4.40		29	46
4.50		29	45
4.60		28	44
4.70		27	43
4.80		27	43
4.90		26	42
5.00		26	41
5.10		25	40
5.20		25	39
5.30		24	38
5.40			38
5.50			37

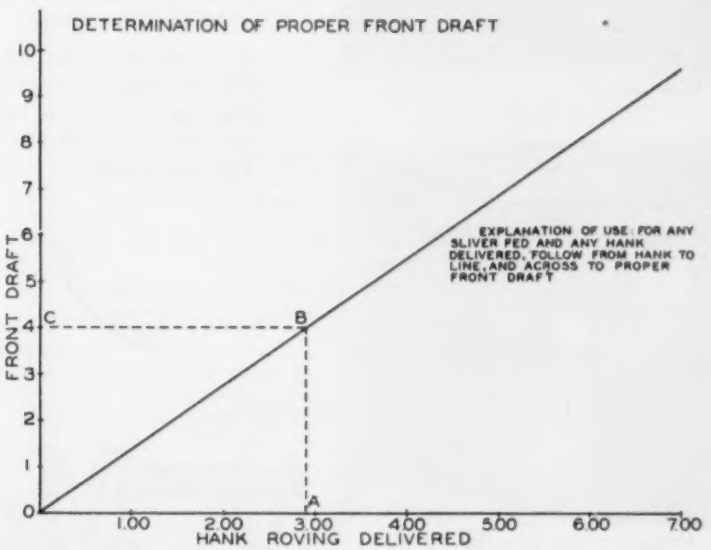


FIG. 6. Proper front draft on Saco-Lowell roving frame, Model J-3, may be determined on this chart.

on the diagonal line, a line horizontally to the left will intersect the correct front draft to use for obtaining 11½ grains per yard of stock in the condensing zone.

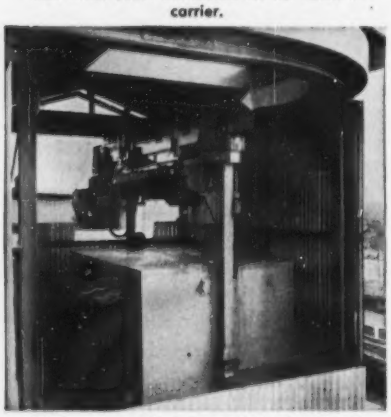
An example on the chart shows the method for determining the proper front draft to use in producing 2.90-hank roving. A dotted line from "a" at 2.90, vertically to "b" on the diagonal line, and horizontally from "b" across to the front draft line, shows at "c" that 4 is the proper front draft.

This chart will work for any sliver or hank size, since drafting 11½ grains to any given roving size is a constant draft.

After the proper front draft has been selected, the front draft change gear to use may be found in Table 1. The first column is a partial list of the front drafts that may be used. The next three columns are front draft gears, headed by the three front draft constants which may be used on the J-3. Follow horizontally from the front draft as determined above, to the column representing the

AUTOMATIC "UP AND OVER" TRANSFER

Three boxes—450 lbs. each—are loaded in car. When doors are closed the car raises to carrier.

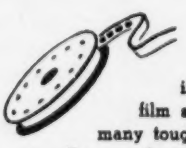


When car reaches upper limit, the Mono-Tractor propels carrier on the MonoRail to No. 2 mill.

SAVES $30,000 PER YEAR

Here is an "Up-and-Over"* system that eliminates 72 hours of handling labor per day. It automatically transfers 180 full bobbin boxes from three floors of one mill to one floor of another and returns the empties. Estimated savings in labor, trucks, floors and traffic congestion run upwards of $30,000 per year.

It is another of the many examples of American Mono-Rail engineering for low-cost handling within space limitation. Let one of our field representatives explain further the versatility and low maintenance of American Mono-Rail equipment.

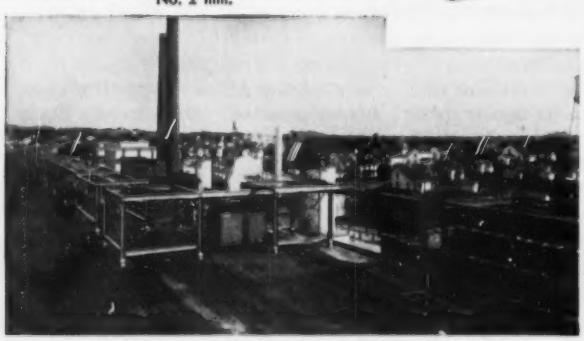


***"UP-AND-OVER"**

is the title of our 16-mm. sound film showing how MonoRail solves many tough handling problems. Please allow us three weeks to schedule showing.

AMERICAN MONORAIL COMPANY

13106 ATHENS AVENUE • CLEVELAND 7, OHIO



Carrier travels at 50 f.p.m. around curves—150 f.p.m. on straight track with slow approach at towers.

At No. 2 mill car lowers to third floor for delivery of full boxes and return dispatch of empties.

front draft constant in use, and the proper draft change gear will be found.

The total draft gear is, of course, determined in the usual way; that is, the total draft constant is divided by the total draft as determined from the size sliver fed and hank roving delivered.

Conclusions. Within the conditions of the tests as described above, the following conclusions are made:

(1) Regardless of the weight of the sliver fed or the size of the roving produced, the most uniform results are obtained on the Model J-3 roving frame with 11½ grains per yard of stock in the condensing zone.

(2) A more even roving is produced with 52- and 62-grain slivers than with 42- and 72-grain slivers.

(3) Coarse rovings can be produced with better uniformity than fine rovings.

This article is based on a thesis by the author, and was originally submitted in partial fulfillment of the requirements for an MS degree at N. C. State College, School of Textiles. The study was conducted under the direction of Prof. E. B. Grover.

Used Machinery Sales Condemned

One of the greatest injustices the textile industry is doing to itself is condoning the practice of one mill selling to another second-hand machinery. Old and obsolete machinery that imperils the earnings of one mill certainly represents the same danger to the mill which buys it second-hand. Any mill which purchases outmoded machinery because of its cheap price is getting no bargain. That mill is paying in excessive payrolls for new machinery which it did not buy, and from which it can make no profit. Keeping outmoded machinery in operation by re-sales weakens the economic position of the entire industry.—Frederic W. Howe, Jr., president, Crompton & Knowles Loom Works; president, American Textile Machinery Assn.

Ten Commandments of Safety for Supervisors

Reproduced with special permission, from a two-color illustration issued by the American Management Association, 330 West 42nd Street, New York 36, N. Y. Further reproduction is prohibited. Color reproductions of this piece, suitable for framing, are available at moderate cost.

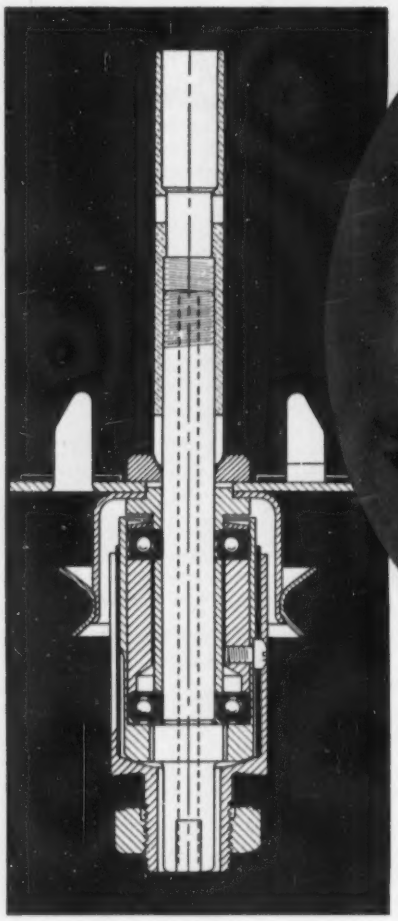
Your job in management places you in a unique position of trust. For not only does the company rely on you, as the direct representative of management, to apply its policies wisely and fairly; also entrusted to you is the obligation to safeguard the well-being of the workers in your charge. No responsibility transcends this in importance. In this respect your job is akin to the "stewardship" of Biblical days: *As a supervisor, you are indeed your brother's keeper.*

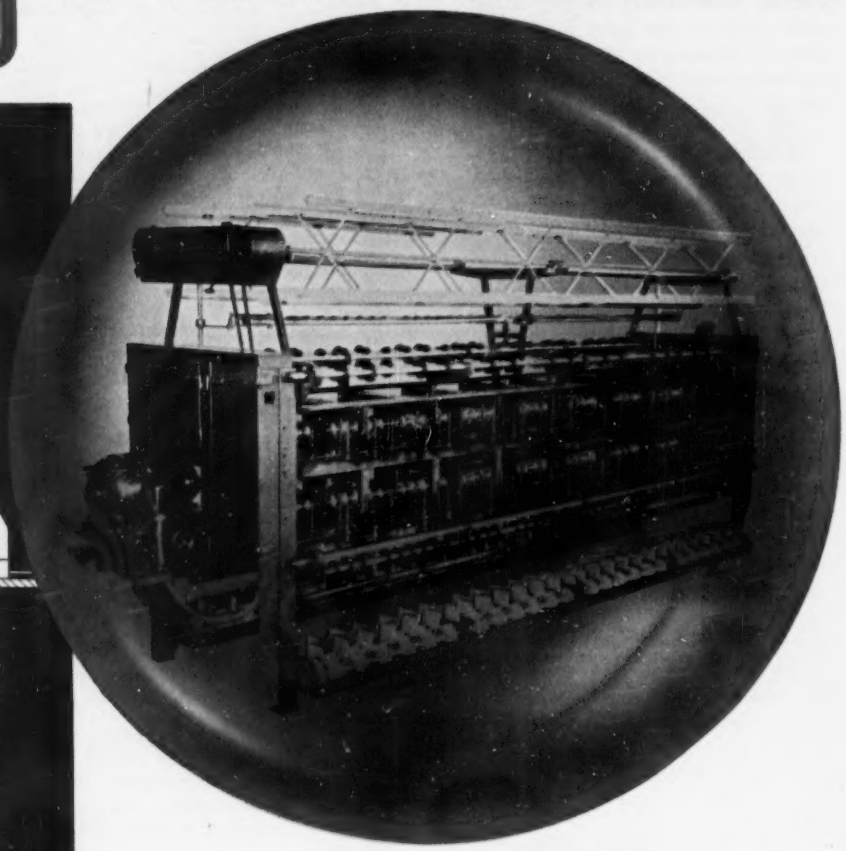
On-the-job accidents represent a serious threat to the physical well-being of your men. Their prevention calls for your constant vigilance. Therefore, if you would guide your men safely through their daily work, be yourself guided by these precepts:

1. You are a supervisor and thus, in a sense, have two families. Care for your people at work as you would care for your people at home. Be sure each of your men understands and accepts his personal responsibility for safety.
2. Know the rules of safety that apply to the work you supervise. Never let it be said that one of your men was injured because you were not aware of the precautions required on his job.
3. Anticipate the risks that may arise from changes in equipment or methods. Make use of the expert safety advice that is available to help you guard against such new hazards.
4. Encourage your men to discuss with you the hazards of their work. No job should proceed where a question of safety remains unanswered. When you are receptive to the ideas of your workers, you tap a source of first-hand knowledge that will help you prevent needless loss and suffering.
5. Instruct your men to work safely, as you would guide and counsel your family at home—with persistence and patience.
6. Follow up your instructions consistently. See to it that workers make use of the safeguards provided them. If necessary, enforce safety rules by disciplinary action. Do not fail the company, which has sanctioned these rules—or your workers, who need them.
7. Set a good example. Demonstrate safety in your own work habits and personal conduct. Do not appear as a hypocrite in the eyes of your men.
8. Investigate and analyze every accident—however slight—that befalls any of your men. Where minor injuries go unheeded, crippling accidents may later strike.
9. Cooperate fully with those in the organization who are actively concerned with employee safety. Their dedicated purpose is to keep your men fully able and on the job and to cut down the heavy personal toll of accidents.
10. Remember: Not only does accident prevention reduce human suffering and loss; from the practical viewpoint, it is no more than good business. Safety, therefore, is one of your prime obligations—to your company, your fellow managers, and your fellow man.

By leading your men into "thinking safety" as well as working safely day by day, you will win their loyal support and cooperation. More than that, you will gain in personal stature. *Good men do good work for a good leader.*

"TOPS" IN TEXTILE APPLICATIONS





Arnold Rubber Covering Machines use two New Departure **ball** bearings in each spindle . . . reach speeds of 10,000 r.p.m. with only 5 h.p. needed for each 80-end machine.

High spindle speeds with low power requirements . . . high precision with low upkeep. These are some advantages New Departure **ball** bearings bring to Arnold Rubber Covering Machines.

Throughout the textile field, New Departures assure better, faster machine operation with lower power, lubrication and maintenance costs. And better-quality finished products result.

When you have textile equipment in the design stage, *talk with your New Departure engineer.* He'll be glad to help you get greater efficiency and economy in your bearing applications.

NEW DEPARTURE

BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT
Plants also in Meriden, Connecticut, and Sandusky, Ohio
In Canada: McKinnon Industries, Ltd., St. Catharines, Ontario

Open the gates to cheap foreign goods, made with cheap labor, and you open the veins of our industry—

Your job is at stake!

By J. Craig Smith
President
Avondale Mills

A FOREIGN trade policy which brought cheap foreign cloth into this country would open the veins of those persons who look to our industry for a livelihood. We all know what happens to people who have their veins opened.

Our industry is the most competitive of any major industry in the United States, is composed of more than a thousand individually owned units, has no semblance of price control, and no industry-wide bargaining. Each individual unit is constantly striving to improve its quality, reduce its cost and improve its selling technique.

The record will prove that our industry is the most efficient of any textile industry in the world. Those units which are not efficient do not stay in business very long. Being the most highly competitive of industries, ours is typically a low-profit business.

We own no patents of any consequence on any of our machines. Any machine we own can be duplicated by any competitor we have, here or abroad. Some of our foreign competitors are now operating with modern machines bought with tax money collected from our industry. Although admittedly the most efficient textile industry in the world, our efficiency cannot possibly bridge the wage gap between us and our foreign competitors. *To bridge such a gap, we would have to be three times as efficient as the European mill, ten times as efficient as the Japanese, and twelve times as efficient as the growing textile industry in India.*

Reciprocity Has Back-Fired. The Reciprocal Trade Agreements Act as initially set up by Cordell Hull had as its purpose the exchanging of those things which we had an abundance of and which other countries needed for those things which the foreign countries had an abundance of and which we needed. As far as the American textile industry is concerned, "reciprocity" has back-fired.

Under the Trade Agreements Act the United States granted many concessions on textile imports, reducing customs duties by about one-third on the average and as much as 75 per cent in some cases. In return, America reaped not a single tariff concession on cotton goods from other countries and instead became the target for a startling multiplicity of restrictions that are really tariffs in disguise. Today U. S. tariff rates are not only the lowest in the world relative to costs, and in actuality far below those of most other countries, but the American market is the only important one in the world that is reasonably accessible to the goods of other nations.

Cotton Farmer's Best Customer. Our industry as a whole represents a capital investment of some 7 billion dollars and in all its segments it provides jobs for a million and a quarter people, paying an annual wage bill of some $3 billion. It consumes on the average about two-thirds of the American cotton crop, processing that fiber into an output which is twice that of Japan and England combined. We are a $2 billion a year customer of the American cotton farmer—and by far his best customer.

The industry is a key factor in the support of agriculture for the entire southern portion of the United States from the Atlantic to the Pacific, and throughout much of the nation it buttresses scores of industries which service and supply the textile mills.

Purely in the area of textile manufacture, we annually buy some $800 million worth of chemicals and $438 million worth of miscellaneous goods from small industries, to mention just two categories (1947 census data).

Textiles in War Effort. During World War II the Quartermaster General said that our industry was second in importance only to steel in carrying on a successful war effort. Obviously, we cannot have a textile industry during times of national emergency unless we maintain it in peacetime. Surely in the national interest we could not rely on getting the hundreds of essential military textile supplies from Europe and Asia.

As opposed to the vigorous and healthy competition we have in

J. Craig Smith, president of Avondale Mills, is also president of the American Cotton Manufacturers Institute. His remarks, of which this is an abstract, were made before the annual meeting of the Alabama Cotton Manufacturers Association in Biloxi, Miss.

Tuffer
TRADE MARK

CARD CLOTHING

Trimmed to Give Full Carding Efficiency

The trimming operation in the manufacture of card clothing is a very important one. It must be RIGHT if top quality production is to be attained.

TUFFER Precision Trimming is one of the major reasons why TUFFER Card Clothing fits the cylinders so smoothly and does such a fine job.

The perfectly-trimmed sides of each TUFFER fillet fit snugly and properly against each other, forming a single unit of clothing that has every point in position . . . and with all the wires having a complete uniformity of height, pitch and angle.

For years hundreds of mills have reordered TUFFER Card Clothing time after time. It fully meets the requirements of those who want the best.

B-4

Manufacturers of Card Clothing since 1866

Tuffer **HOWARD BROS.**

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga., and Gastonia, N. C.

Direct Representation in Philadelphia, Pa., *and in* Canada

TUFFER PRODUCTS Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plants • Midgley Patented, and Howard's Special Hand Stripping Cards • Top Flat Chains

our domestic industry, the foreign textile industry, like most other foreign industries, operates under a cartel system. This means that with the approval and cooperation of their own governments, their prices are fixed by agreement. This system would make it all the more easy for them to dump their production in this country.

Every yard so dumped would surely displace a yard made here.

In addition, the importation of this cheap foreign cloth, made with cheap labor, would have a demoralizing effect on our already depressed price structure and the uncertainty as to how much more might be imported would make it impossible for our industry to sell for forward delivery.

India is using the same cheap labor which she uses in her cotton mills to materially increase the production of her raw cotton. Those people who wish to see cheap cloth, made with cheap labor, brought into this country usually argue that this would provide dollars with which the foreign spinner could buy American cotton and that the result would be an increased export business for the cotton farmer.

Perhaps the foreign spinner would temporarily increase his purchases of American cotton. However, he would do so only until he could develop a cotton supply closer home. How, then, could it possibly benefit the cotton farmer to cripple his best and most permanent customer, the United States textile industry, in order to start up a mill in India or some other foreign country?

I have no sympathy with giving any industry tariff protection unless that industry is highly competitive. If an industry is monopolistic or has monopolistic tendencies, in my judgment it should have foreign competition. I hold no brief for giving tariff protection to domestic production if foreign production can be sold here because it is better quality or better styled.

The fact is that cotton cloth manufactured in foreign mills can be sold in the United States for one reason, and one reason only. That reason is because it is cheap. It is cheap for one reason, and for one reason only. That reason is because it is made by cheap labor.

Our government, by law, maintains a minimum wage scale several times that of our foreign competition. The actual wages paid in our mills substantially exceed this legal minimum but are certainly no more than are needed to maintain an American standard of living. *Surely it would not be in the national interest to pass a law setting up a minimum wage rate and then permit cheap cloth, made with cheap labor, to make it impossible to provide jobs at the legal minimum wage rate.*

Per capita cotton consumption in the United States, on a yearly average, runs more than 27 pounds. Compare this with 6 pounds per person in Central and South America, 4 pounds in Asia, 2½ pounds in Africa and only 8 pounds in highly civilized Europe. These facts suggest the real problem lies with economic policies of other countries, not the U. S. tariff. The underdeveloped countries, whose populations need clothing, are trapped in their own programs of trade restrictions and nationalism.

A lowering of American tariffs would only divert more goods from the regions of scarcity to the one region of great abundance. How would that help the needy people of Africa, Asia, South America, and Indonesia? Such an action would only make the United States a substitute market for the textile industries of Western Europe—and in the process the conditions which gave us our abundance would be threatened with destruction.

Trading in Raw Silk Futures Resumed

Trading in raw silk futures was resumed on the New York's Commodity Exchange, Inc., on Monday, March 15, 1954, after a lapse of almost thirteen years. Silk trading had been in suspension since July 25, 1941, when all stocks were frozen by the Government in connection with the national defense program. Brief ceremonies were held prior to the re-opening of dealings in silk futures.

The photo shows the two speakers, George Elbogen (at left on rostrum, upper center), vice-president of the Exchange, and Jerome Lewine (at right on rostrum), senior partner of H. Hentz & Co., and first president of the Commodity Exchange, Inc., in 1933.

Mr. Lewine, the second president of the National Raw Silk Exchange in New York, which was formed in 1928 and merged into the Commodity Exchange five years later, participated in the first transaction when he purchased one lot (1,300 pounds) for August delivery, at $4.85 per pound.

PYROTEX

for better scouring

PYROTEX is efficient and economical in the scouring and dyeing of all fabrics and yarns.

PYROTEX is neutral and free-rinsing. It can be used hot or cold; under neutral, alkaline or acid conditions; in hard or soft water.

PYROTEX promotes level dyeing and acts as an excellent dispersing agent for dyestuffs. Reduced crocking results when it is used for soaping-off.

PYROTEX leaves the goods with a clear, bright shade and a soft, pleasing "hand".

STANDARD CHEMICAL PRODUCTS, Inc.

* Reg. U. S. Pat. Off.

1301 JEFFERSON STREET, HOBOKEN, NEW JERSEY
SOUTHERN PLANT: CHARLOTTE, NORTH CAROLINA

Chattanooga, Tenn. • Paterson, N. J. • Providence, R. I. • Salisbury, N. C. • Sunbury, Pa.
Sacramento, Calif. • Greensboro, N. C. • Leaksville, N. C. • Athens, Ga.

MANUFACTURER OF: STANDAPOL* • STANTEOSINE • RETARDINE* • STANDAFIN* • STANTEX*

EXCLUSIVE

About talking ourselves into a DEPRESSION

By Ringgold Arden

FOR SEVERAL years, editors of various sorts, industrial bigshots, senators, and various other People of Consequence, have been cautioning us against "talking ourselves into a depression." Since practically nobody wants a depression, except the bears who are playing the market short, it might be a good idea to look into this thing and see just what kind of conversation is likely to cause a depression.

We have therefore given this a good deal of serious thought, and have come to the conclusion that *it is possible to talk ourselves into a depression*, and that it can be done approximately as follows:

► We can talk ourselves into believing that no harm is done by depreciating the value of our money, because by making it cheaper, people can have so much more of it.

► We can talk ourselves into believing that continually raising the wages of people for producing the same, or a less amount of goods, will increase purchasing power and bring on a state of widespread prosperity.

► We can talk ourselves into believing that giving away billions of dollars worth of farm produce in order to keep the prices of this stuff at an artificially high point, will benefit the farmer and not hurt the taxpayer, or the consumer who has to pay the artificially high prices.

► We can then talk ourselves into believing that when the consumer kicks about these high prices for agricultural products, we can raise his wages and make everything all right again.

► We can talk ourselves into believing that if a man buys something he can't afford, and can't pay for, but which he is certain that he needs, his more prudent fellow-citizens should bail him out and save him from the sheriff through the intervention of the Federal Government with taxpayers' money.

► We can talk ourselves into believing that the National Government can keep on helping this, that, and the other group of persons indefinitely by merely increasing the national debt, and that this is a matter of no consequence whatever, because we owe the national debt to ourselves and therefore why worry!

► We can talk ourselves into believing that at a time when the national debt is still climbing, and has bumped against the legal limit several times and the limit has had to be increased, that it is a whole lot better to raise the debt limit than to pay taxes and take care of our bills as they come due.

► We can talk ourselves into

"The time has come," the Walrus said,
"To talk of many things:
Of shoes—and ships—and sealing-wax—
Of cabbages—and kings—
And why not the sea is boiling hot—
And whether pigs have wings."

—The Walrus and the Carpenter;
Lewis Carroll

believing that a scullery maid who has been working for a short time in some war-generated boondoggle, and is now out of a job, is a $100-a-week riveter, welder, or what-not, and must be supported at public expense to protect her from going back to the dishrag and the broom.

► We can talk ourselves into believing that any man who spent a few weeks in the army is a "veteran," and entitled to free hospitalization and handouts of various sorts as long as he lives.

► We can talk ourselves into believing that we can collect billions of dollars a year in taxes on corporations, and that this is not a sales tax and doesn't hurt a soul except the people who have been foolish enough to save up their money to invest it in the corporations, and therefore have some loose change that they don't need and might as well donate to the needy.

► We can talk ourselves into believing that if the people in some locality have destroyed a business, or a whole segment of an industry, by refusing to do more than about half as much work as an honest and industrious citizen is willing to do somewhere else, that the Federal Government must subsidize the businesses supporting these folks who are disinclined to work, and that this will not hurt the taxpayer or cost the Government anything, because it helps to maintain business at a normal level and prevent unemployment.

► We can talk ourselves into the idea that it is all right for a bunch of irresponsible hoodlums to gain control of the people who work in large segments of an industry, or in whole industries, and diligently proceed to wreck those industries by encouraging their employees to tie them up with strikes and otherwise interfere with the successful conduct of the business or industry.

► We can talk ourselves into thinking that it is fair to make some men work for the Government six months or eight months out of the year to satisfy the exactions of the tax collector while other men are not supposed to contribute anything to Government at all, under a theory of taxation which argues that if the man has it, or can make it, you can take it away from him.

► We can talk ourselves into thinking that it is wrong for men of genius or great capabilities to create wealth which will trickle down through all of the strata of society, and that the proper procedure is for wealth to trickle *up* instead of down, which is a good trick if you can do it.

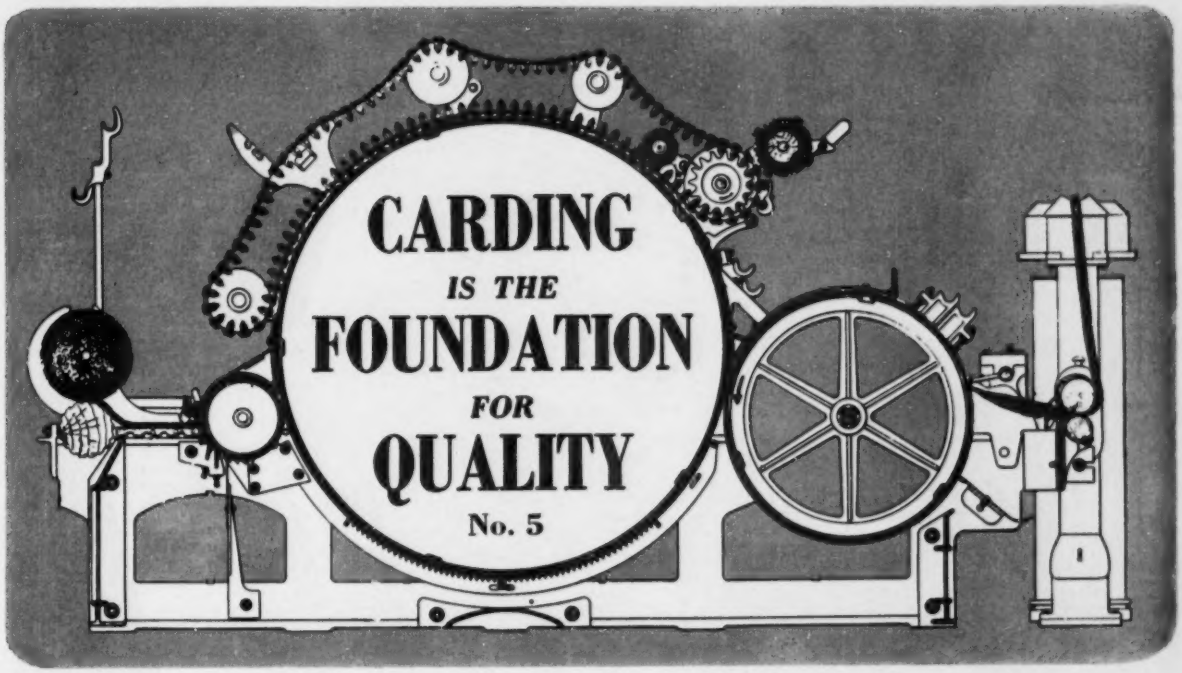
► We can talk ourselves into agreeing that it is wise and prudent to tax a stockholder on the earnings of his corporation and then soak him again as the recipient of dividends from that corporation, because this is very likely to encourage people to invest in corporations, which will make

Naphthols defy the sun

The same sun which creates color and makes it possible for us to see it, is one of the most dangerous enemies of color. Naphthols are noted for their excellent light fastness properties. Pfister is noted for fine Naphthols.

Pfister Chemical Works INC

Ridgefield, New Jersey

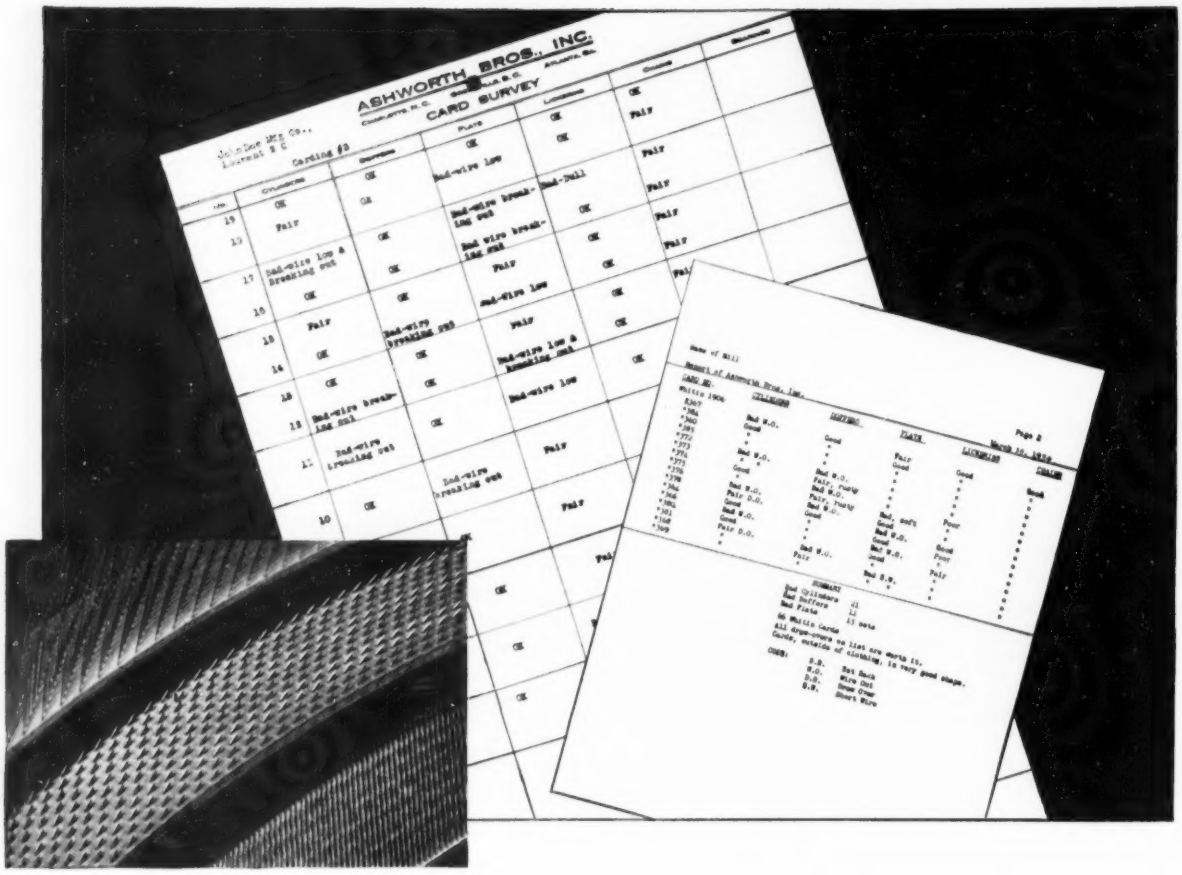


TIPS ON REDUCING CARD SLIVER VARIATION

1. In the first place, it is highly essential that an even lap, free from holes and bunches, and with good distribution throughout its length and width, be provided the card. Achieving this, close attention should be paid to the points that follow.
2. All plates must be smooth and set to gauge top and bottom, and end to end.
3. Feed plate must be clean and smooth, set to gauge end to end, and bolted securely to frame sides.
4. Feed Roll shafts and bearings should show no appreciable wear so as to prevent "plucking" of picker lap by the lickerin.
5. Mote knives must be smooth and straight, set to gauge end to end, and at correct angle.
6. Licker-in should be full size, have good wire with correct number of teeth per inch, and be set to gauge end to end and all around.
7. The licker-in cover should fit properly and be securely bolted to shrouds. Make-up piece between licker-in cover and cylinder should fit properly. Scavenger roll on feed roll should be true and covered with correct material. Any unusual draft at this point will affect evenness of sliver.
8. All gearing should be kept clean and have full complement of teeth. Correct meshing of gears is very important.
9. Card calendar rolls and coiler calender rolls should be full size, with good bearings and shafts. Correct setting of rolls and gears is important.
10. Trumpets in coiler and at calender rolls must have correct size hole for sliver produced.
11. The screens under cylinder and licker-in play an important role in the carding process, particularly in evenness of sliver. Correct setting to gauge controls draft. Worn and rough screens, ribs out or damaged, and poor setting will result in poor work and uneven sliver.
12. Doffer should be same diameter end to end and set to gauge over entire circumference. Doffer bearings, shafts, and driving mechanism must be in tip-top shape to assure constant speed. Out-of-round doffers and variation in doffer speed definitely affect evenness of sliver.
13. The card clothing on cylinder, doffer, and flats must be in reasonably good condition, properly ground, and set to gauge. Any irregularities, such as shedding, breaking out in spots, jams, and oil soaked selvages will affect quality and evenness of sliver.
14. Every setting point on entire card should be correctly made to gauge. Main driving belt and individual driving belts must be in good condition and at correct tension, to assure constant speed.

NOTE: Reprints of this page will be supplied, free of charge on request to Ashworth Bros., Inc., Fall River, Mass.

. . . PLEASE TURN THE PAGE



Ashworth CARD SURVEYS

A Sure Way to Reduce Poor-Quality Losses

Defective card clothing is far more serious than a machinery breakdown, because it doesn't STOP the machine. Unless detected and replaced promptly, it permits untold losses from poor-quality sliver.

A sure way to reduce such losses is to have Ashworth make periodic surveys of your cards and card clothing. This is done by practical card men, who always use a check list so that nothing is overlooked and make a written report to you of repairs needed.

The repairs can usually be scheduled over a period, so that the cost is spread out and there is a minimum loss of productive time.

This service is free to Ashworth customers. If you're interested, get in touch with our nearest office.

ASHWORTH BROS., INC.

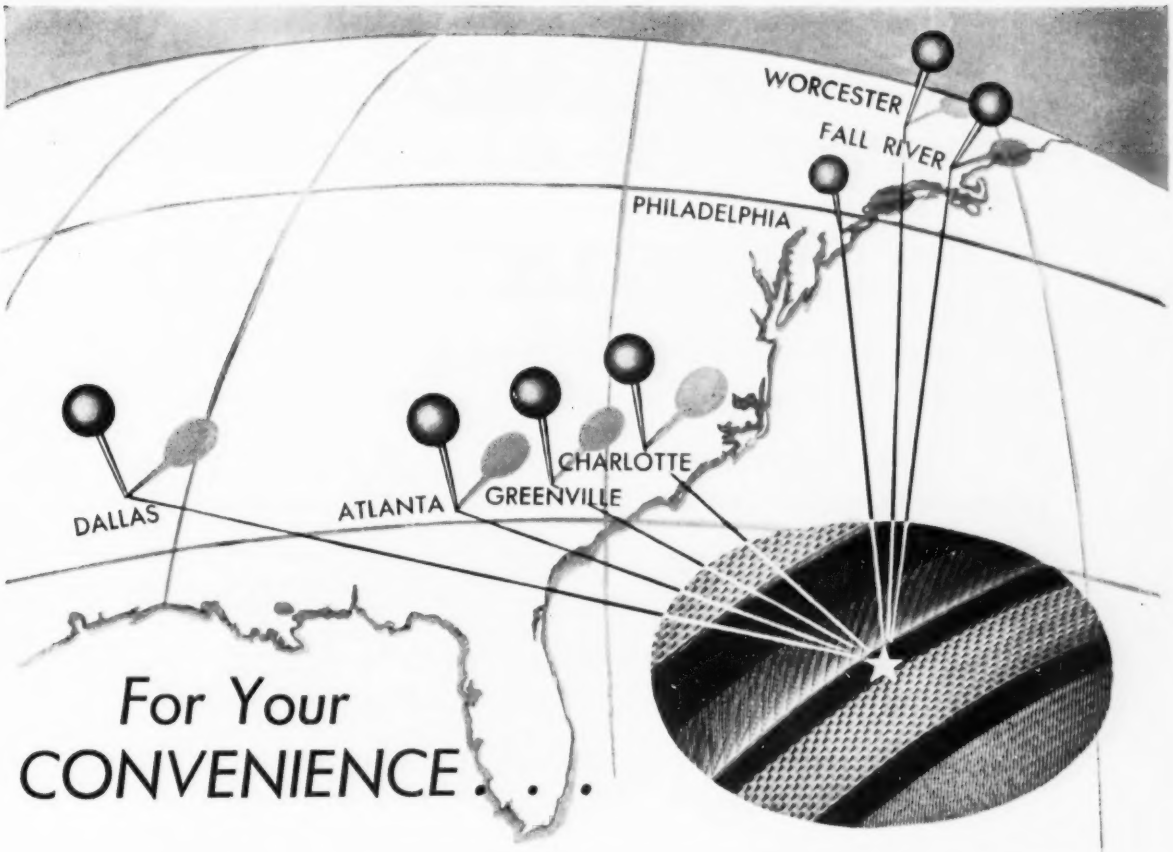
American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)

*Factory †Repair Shop ‡Distributing Point

3 FACTORIES — 6 REPAIR SHOPS
7 DISTRIBUTING POINTS

NO CARD CLOTHING IS ANY BETTER THAN THE SERVICE BEHIND IT



For Your CONVENIENCE . . .

3 FACTORIES • 6 REPAIR SHOPS • 7 DISTRIBUTING POINTS

Three factories (Greenville, Philadelphia and Fall River), six repair shops (Greenville, Charlotte, Atlanta, Dallas (Textile Supply Co.), Philadelphia and Fall River) and seven distributing points (Greenville, Charlotte, Atlanta, Dallas, Philadelphia, Worcester and Fall River) make Ashworth Card Clothing and Ashworth Service *conveniently* yours.

Nearly a century of manufacturing experience makes Ashworth Card Clothing *dependably* yours.

PRODUCTS AND SERVICES

Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards and for All Types of Napping Machinery, Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.

For Prompt Service,

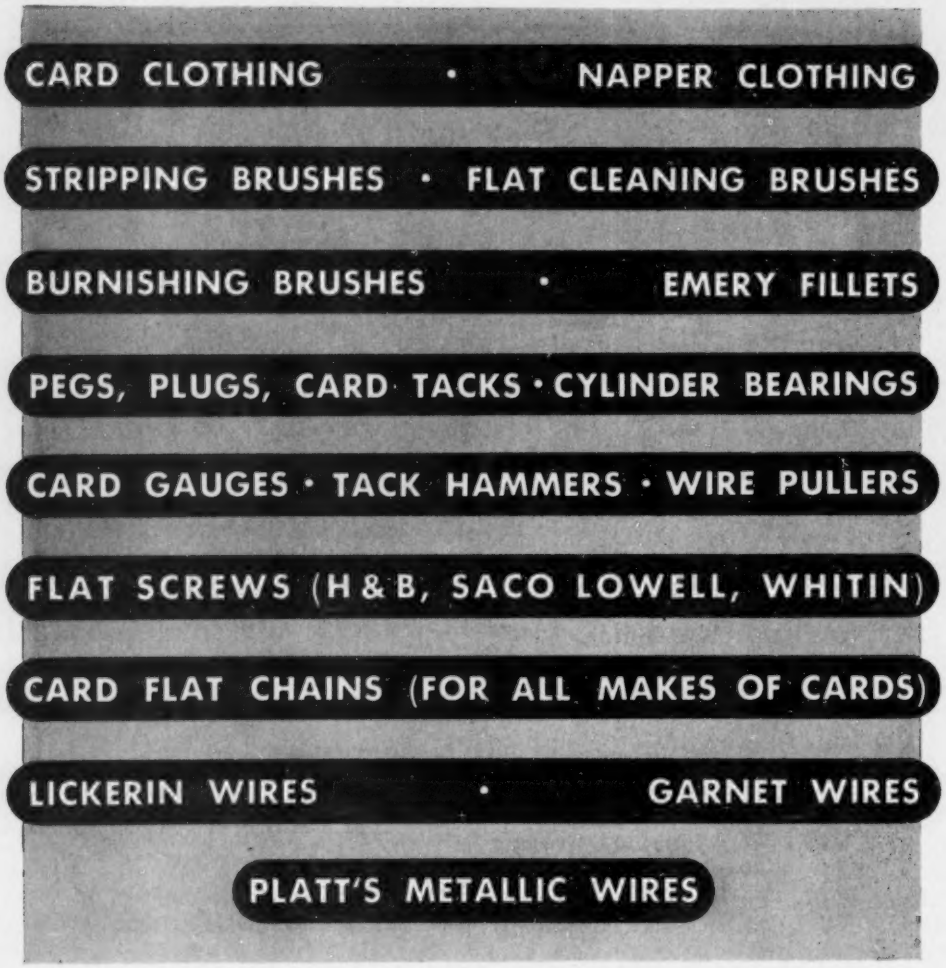
CALL ASHWORTH BROS., INC

Greenville, S. C.	3-3631
Charlotte, N. C.	5-6069
Atlanta, Ga.	Main 0501
Dallas, Tex. (Textile Supply Co.)	Riverside 4729
Philadelphia, Pa.	Michigan 4-3490
Worcester, Mass.	3-4430
Fall River, Mass.	5-7886
Los Angeles, Calif. (E. G. Paules, Rep.)	Axminister 3-6265

Ashworth CARD CLOTHING

Ashworth

HEADQUARTERS FOR ALL CARD SUPPLIES


CARD CLOTHING • NAPPER CLOTHING
STRIPPING BRUSHES • FLAT CLEANING BRUSHES
BURNISHING BRUSHES • EMERY FILLETS
PEGS, PLUGS, CARD TACKS • CYLINDER BEARINGS
CARD GAUGES • TACK HAMMERS • WIRE PULLERS
FLAT SCREWS (H & B, SACO LOWELL, WHITIN)
CARD FLAT CHAINS (FOR ALL MAKES OF CARDS)
LICKERIN WIRES • GARNET WIRES
PLATT'S METALLIC WIRES

When you need card supplies, call or write our nearest plant. We have everything in stock as listed herewith. You'll find it convenient, time saving and economical to do business with "Headquarters".

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester‡ Philadelphia*†‡ Charlotte†‡
Greenville*†‡ Atlanta †‡ Dallas†‡ (Textile Supply Co.)
Los Angeles 62, Calif. (E. G. Paules, Representative)
*Factory †Repair Shop ‡Distributing Point

3 FACTORIES • 6 REPAIR SHOPS • 7 DISTRIBUTING POINTS

more jobs and more things to tax.

After we have talked ourselves into enough of these economic lunacies, we can quit wondering *whether* we are going to have a depression, and begin talking about *when*, and this is probably what most of the people who are worried over the current situation are thinking about. They realize that the preliminary conversations building up to a depression have been held, and that we have talked ourselves into an innumerable number of things which lead straight to depression.

Now, we must studiously avoid any reference to the dreadful thing, just as the subject of delirium tremens must be avoided in a drunkard's household. A man can talk himself into delirium tremens of course, but he has to do it gradually, drink by drink. No sober man ever talked himself into such a condition without taking appropriate preliminary action.

The people of a nation can not talk themselves into a depression while the national economy is in a perfectly sound and healthy condition. They must first talk themselves into undermining that economy with a lot of foolish and imprudent measures, so that any commonsense talk is frightening to persons who have abandoned commonsense and are trying to live in the fool's paradise of inflation, whether national inflation or merely the personal over-stretching of credit.

Ashcroft Honored by ASTM

Staff Report

Meetings of various task groups and subcommittees of Committee D-13, American Society for Testing Materials, were held on March 17 through 19 at the Hotel Statler, New York City.

Spotlighted during the three-day session was presentation of Harold De Witt Smith Memorial Medal for 1954. Medalist for this year was A. G. Ashcroft, vice-president and director of research and development at Alexander Smith, Inc. The presentation, which took place at a luncheon on March 18, was prefaced by G. E. Schulz, president of Nye-Wait Co., Inc., who spoke on "Ashcroft The Man" and J. H. Dillon, director of Textile Research Institute, who spoke on "A. Griffin Ashcroft, Scientist."

Among the various meetings, of particular interest was that of Subcommittee B-1, Committee D-13, presided over by Walter M. Scott of U. S. Department of Agriculture, chairman. The meeting held during the morning of March 18 covered progress reports on organization and activities of task groups in each of the major groups: Fiber, Yarn, Fabric, Chemical Methods, and Performance Test.

The Fiber Group reported that it had drafted and submitted a test method for the Vibrascope which measures the weight per unit length of fibers by the resonant vibration principle and was ready to launch inter-laboratory testing programs.

Procedures for evaluation and determination of linear unevenness in yarns were reported by the Yarn Group as being under study. Tentative methods for testing unevenness will be supplied by instrument manufacturers. To date four manufacturers have proposed methods.

The Fabric Group opened a general discussion on wrinkle recovery testing equipment on which a 1½-lb weight was discarded in favor of a more practical 500-gram weight, the difference between the two in testing being negligible. The decision was announced on the cantilever type of stiffness tester to adopt one standard piece of equipment and circulate it to various laboratories for testing on seven fabrics. Inability to interchange Pierce and cantilever methods was brought out, since the two tests do not measure the same thing. The Fabric Group also discussed dimensional restorability of knitted fabrics after laundering, calibration of pendulum-type testing machines, and thickness testing.

The Chemical Methods Group reported on quantitative analysis of binary mixtures containing Vicara. Of the various average test reports covering percentage determinations and deviations that were submitted, those which used inorganic acids showed the highest deviations, indicating an inherent error.

Two standard methods were submitted by this group: Quantitative analysis of Acrilan-viscose blends by (1) The hydrochloric acid method and (2) the dimethyl formamide method. The methods are applicable to staple fiber blends of Acrilan and viscose rayon covering the range from 0 to 100% Acrilan and are based on the solubility/insolubility properties of the two fibers in the test solutions. Both methods are accurate to within ± 0.2%.

General discussion followed concerning devising tolerances for blend composition at the manufacturing level.

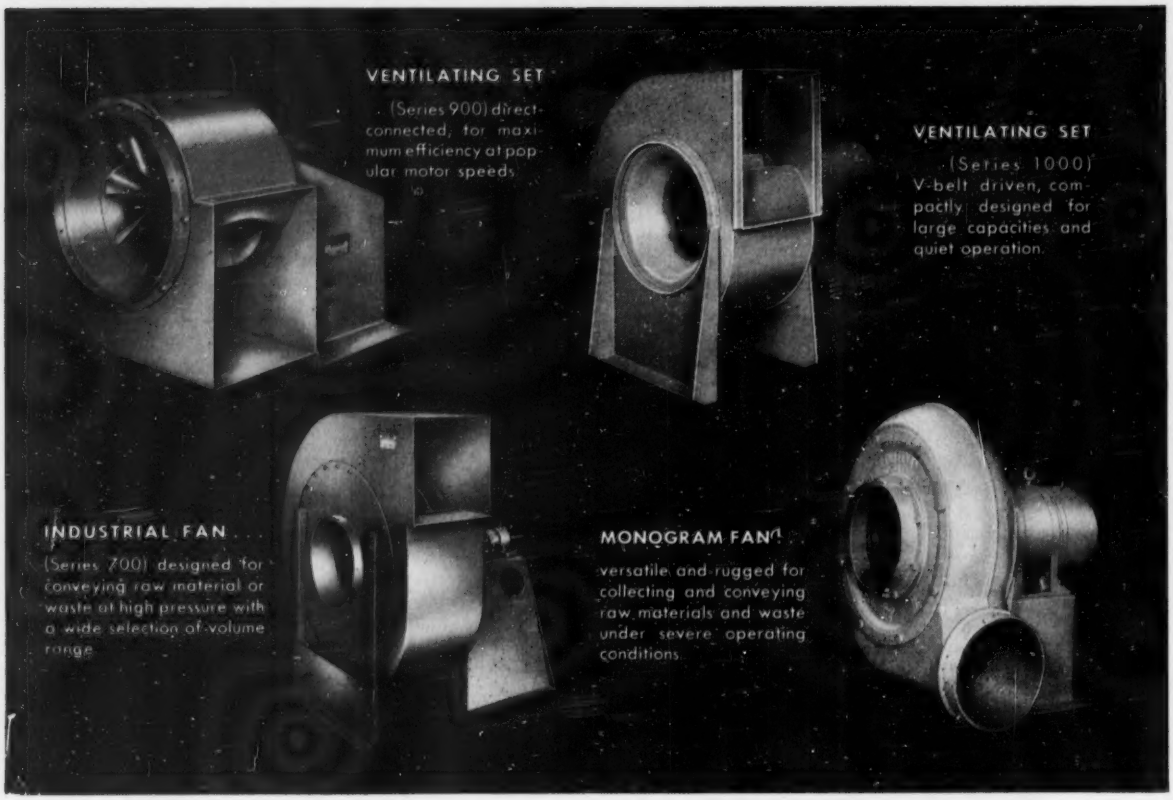
The Performance Test Group reported on a combined ASTM-AATCC meeting which resulted in technique and machine design modifications on abrasion resistance testing after having studied the Stole flex method.

NLRB's Mount Hope Order Over-Ruled

A ruling of the Court of Appeals for the Fourth District has set aside an order of the National Labor Relations Board against the Mount Hope Finishing Co.

Employees had contested firm's move from North Dighton, Mass., to Butner, N. C., and NLRB had ordered company to reinstate employees, pay their moving expenses to new site, and reimburse them for any wages lost.

Court held that move was not made to avoid bargaining with union, but on sound principle of seeking more favorable economic climate for its operations,


VENTILATING SET
(Series 900) direct-connected, for maximum efficiency at popular motor speeds.
VENTILATING SET
(Series 1000) V-belt driven, compactly designed for large capacities and quiet operation.
INDUSTRIAL FAN
(Series 700) designed for conveying raw material or waste at high pressure with a wide selection of volume range.
MONOGRAM FAN
versatile and rugged for collecting and conveying raw materials and waste under severe operating conditions.

These Westinghouse Fans Help You Increase Production...Employee Efficiency

Whatever your air handling problem . . . smoke, fumes, vapor, dust, wood shavings, granular material or ventilating . . . these Westinghouse fans are designed to handle or remove them . . . efficiently and economically.

Monogram and Industrial Fans are designed for collecting and conveying raw materials and waste . . . and permit a wide range of selections to meet the most exacting requirements.

Ventilating Sets are designed for maximum efficiency, quiet operation and low power consumption . . . for years of trouble-free operation.

Each of these rugged, powerful Westinghouse fans will prove to be the most economical solution to your specific air handling problem. And Westinghouse fans offer a *single equipment warranty* with undivided responsibility . . . an *exclusive* Westinghouse-Sturtevant feature. Get the fan built for *your* need from your nearest Westinghouse-Sturtevant office today. Or write: Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Mass.

SERIES 900 VENTILATING SETS

Compact, efficient, direct-connected and ready-to-run. Especially suited for small ventilating installations. Radial blade wheel design minimizes problem of airborne dirt and grease. Designed for volumes to 3200 cfm.

SERIES 1000 VENTILATING SETS

V-belt driven, self-contained. Adaptable to either indoor cr outdoor installations for a wide variety of heating, ventilating or air conditioning applications. Designed for volumes to 14,000 cfm. Available in sizes from 9" to 30" wheel diameters.

INDUSTRIAL FANS (SERIES 700)

Permits a wide range of volume selections at high pressure for handling and conveying raw material and waste.

MONOGRAM FAN

Ruggedly built, many-purpose fans for use either as a blower or exhauster for dust control, collecting and conveying waste or raw materials, and supplying air for furnace blast, drying, etc. Provides long, trouble-free service at low cost under severest operating conditions. Available in ten sizes with capacities from 200 to 13,500 cfm . . . pressures from 1" to 12" wg.

WESTINGHOUSE AIR HANDLING

J-80380

YOU CAN BE SURE ... IF IT'S Westinghouse

Tips on Finishing Orlon-Wool Fabrics

Whether stock, top, yarn, or piece dyed, blends of "Orlon" acrylic staple, Type 42, and wool can be finished on conventional woolen and worsted system equipment to give fabrics of desirable face, cover, drape, and handle, provided the grey goods have been designed to achieve this result.

Since "Orlon" has low shrinkage and no felting properties, the allowable percentage in a woolen blend is limited, depending on the degree of cover desired. On heavily face-finished cloths such as kerseys, meltons, and velours about 25% of "Orlon" is the maximum. On woolen flannels perhaps 40% is allowable. On less heavily felted fabrics such as cheviots and shetlands 50% of "Orlon" is satisfactory, and for light weight sport shirtings, dress goods, and other fabrics made essentially on the loom, the "Orlon" content may well be greater. On some fleeces and velours the cover can be obtained by mechanical means such as napping and gigging.

Blends of "Orlon" and wool require longer than the normal fulling time due to the stabilizing effect of the "Orlon". In addition, some compensation should be made in weaving by reeding in about 6% for 25% "Orlon" blends and 12% for 50% blends and adding one or two extra picks so that the cloth can be fulled down to within about one inch of the desired finished width and then finished to the desired weight. The longer fulling time will result in slightly more loss of wool, requiring an allowance of 1-2% increase in deadweight loss. The stretch is in the order of 6-7%. There is no advantage in continuing the fulling beyond the point at which the fabric ceases to move.

"Orlon"/wool blends can be carbonized under normal conditions.

Blends to be piece dyed should be crabbed at the boil or otherwise preset in open width to avoid cockling.

To obtain optimum loft, softness, and stability, drying is best carried out on an overfeed pin tenter.

If nap or cover is desired, conventional card-wire napping machinery or teasle gigs may be used. If a clear finish is desired, orthodox worsted shearing equipment should be used, followed by singeing.

From paper "Mill Procedures for Dyeing and Finishing of 'Orlon' Acrylic Fiber" by Howard P. Brokaw, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

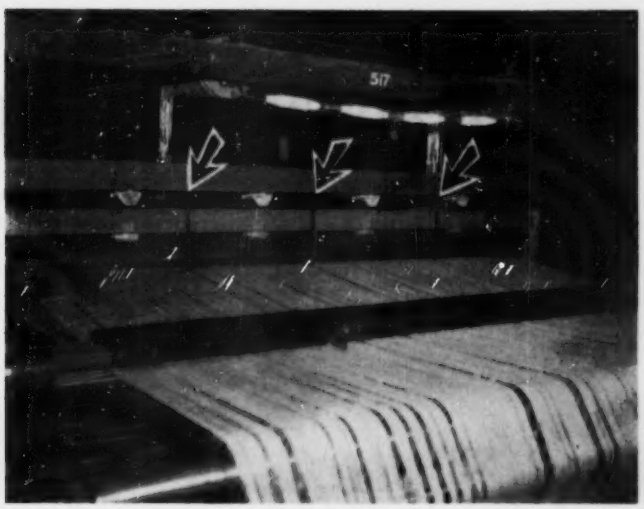
Want to Prevent Broken Harnesses on W-3 Looms?

Until recently, harnesses carrying tape selvage ends on W-3 looms at the Revolution Rayon Plant of Cone Mills Corp., Greensboro, N. C., would sometimes bow in the middle, get hung up with other harnesses, and cause the harness slats to snap. Damage was also caused to the vibrators and evener comb of the head motion of the loom.

Tape selvage harnesses carry 12 to 18 heddles at one end, and have no support in the middle. Extra heddles spaced across the harness cause difficulty in drawing-in, and are not substantial enough to prevent bowing.

The problem of strengthening the tape selvage harnesses was solved through a brace designed by J. Reece Craven, loom fixer at the Revolution Plant. He took two strips of scrap metal about 3/8" wide and slightly longer than a heddle, riveted them together at their centers, and drilled holes at each end. The brace is slipped over the top and bottom heddle rods and bolted together at the holes in the ends. Three of these braces are spaced across an 80-inch harness, giving adequate support to prevent bowing.

Mr. Craven received a cash award for his idea under the Cone Mills' suggestion system.



VICTOR
Mill Starch

KEESTAR PRODUCTS

the Weaver's Friend

Always Uniform...and Backed by Keever Service

TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Vice President

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Corn, wheat and other grain products for industry since 1898

3-2

HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Prevent Streaks in Package Dyeing

EDITOR TEXTILE INDUSTRIES:

A problem dealing with yarn dyeing has come up, and I understand it is a widespread condition.

On cotton yarn wound on the ⅝" pressed paper perforated dye tube, the yarn when dyed in package-dyeing equipment shows streaks. The streaks may show up at almost any level of dyeing on the wound package, but one was of different shade about an inch from the dye tube than it was the remainder of the overall diameter. Looking at this brown dyed package from the end, the difference in the shade was easily visible, and there was no optical illusion caused by difference in winding tension at start of package.

I could find no evidence of the usual trouble, such as irrigated cotton, honeydew, etc. It was said to be handpicked stock.

CONTRIBUTOR No. 8666

EDITOR TEXTILE INDUSTRIES:

Package-dyed yarn showing streaks on the tube is a common problem with all dye houses. There are many different causes which are not always easy to trace, but we will assume that the cotton is well blended and all of the same lot.

It has been our experience that streaking may be caused by the water which is being used. In the fall of the year water which is being taken from a stream may contain some tannic acid, etc., due to dead leaves or other vegetation getting into it. If the water is taken from a well, it will often change during the year as to mineral content and hardness.

Another cause of streaking can be the type of salt that is used. Sometimes it may contain some foreign elements that are detrimental to even dyeing.

If steam is used directly into the dye kier, we have known of it causing trouble if some chemical was added to the water in the boiler room.

The other sources which might be worth mentioning are the tension with which the yarn is wound on the tube and the possibility that the paper tube itself may be bleeding a color or substance into the yarn.

CONTRIBUTOR No. 8641

EDITOR TEXTILE INDUSTRIES:

Concerning problems with package dyeing on the ⅝" perforated tubes:

We do a considerable amount of dyeing of this kind, using all types of dyestuffs. We also ship several million pounds to commercial dye plants for dyeing over a period of a year in this same type package. We have had a limited amount of

THE WINNAHS!

Winners of a recent TI Kink Contest were **Garlin E. Jinks** of Alabama and **Marcel Ouellette** of Canada.

Mr. Jinks' entry was for a let-off attachment for spinning frames, and Mr. Ouellette's for a slide chart to calculate roving frame operator efficiency.

KINK CONTEST!

$100 will be awarded the winner.

Send your entry now! This contest ends July 15, 1954.

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, July 15, 1954.

► No limit to the number of entries an individual may submit in any one contest.

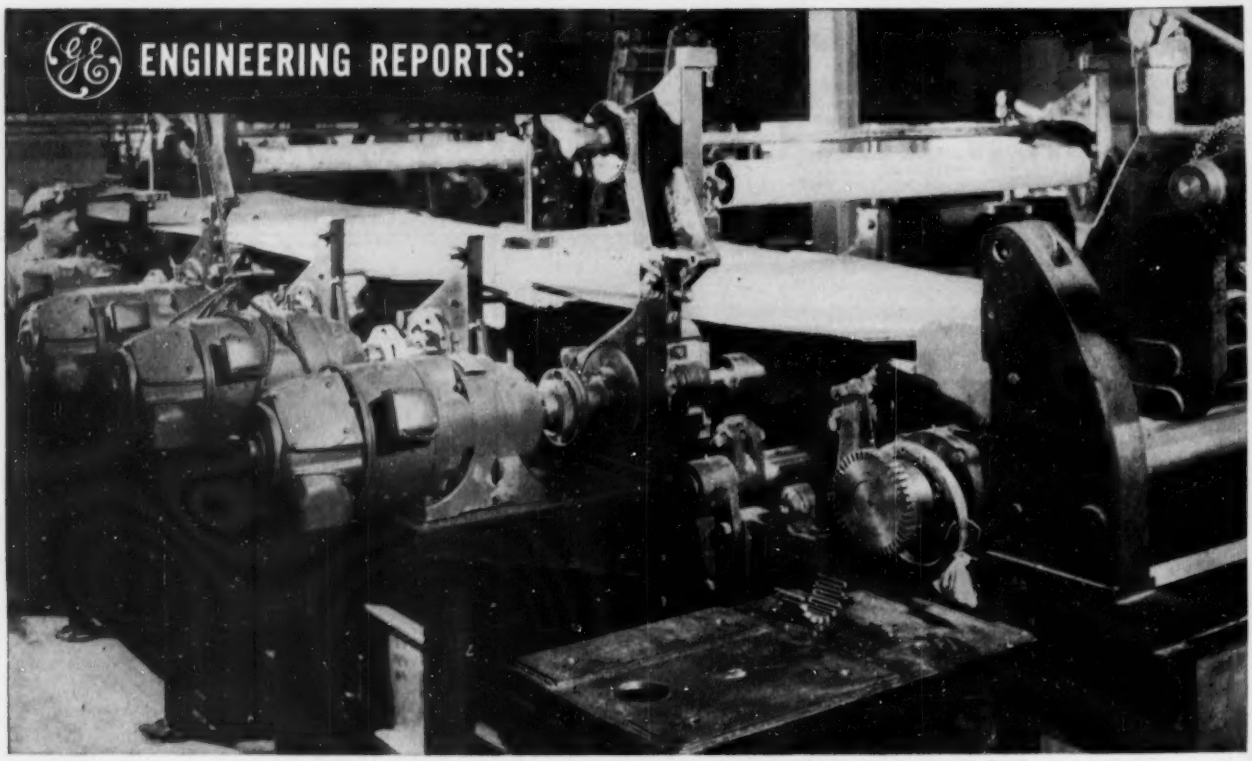
► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously.

Send your contest entry to:

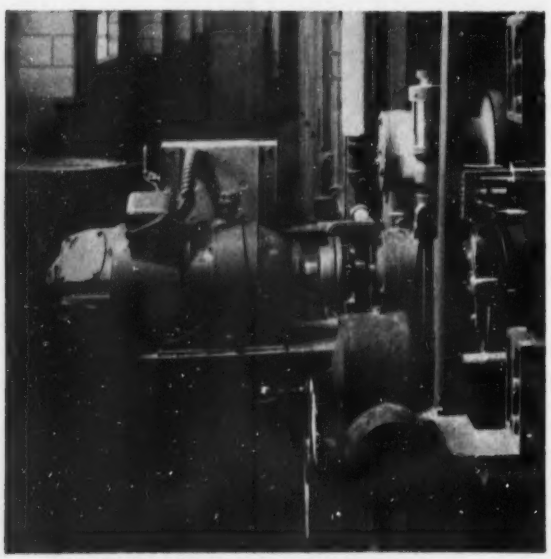
Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

ENGINEERING REPORTS:



EASY INSTALLATION, SIMPLE MAINTENANCE are features of this multiple-motor dyeing range at Grace Bleachery. This construction view shows several of the new three-piece G-E gear-motors being positioned. Although G-E drives such as this will operate for a long time with only routine maintenance, motors may be removed without disengaging the gears.

G-E Packaged Range Drive steps up



EASY-TO-MAINTAIN, G-E three-piece gear-motor runs this starching operation on a plisse range. This motor is only one of the many types that G.E. manufactures for the textile industry. Others include: totally-enclosed, ball-bearing loom motors; open, lint-proof motors; vertical motors for twisters and many others to meet your special requirements.

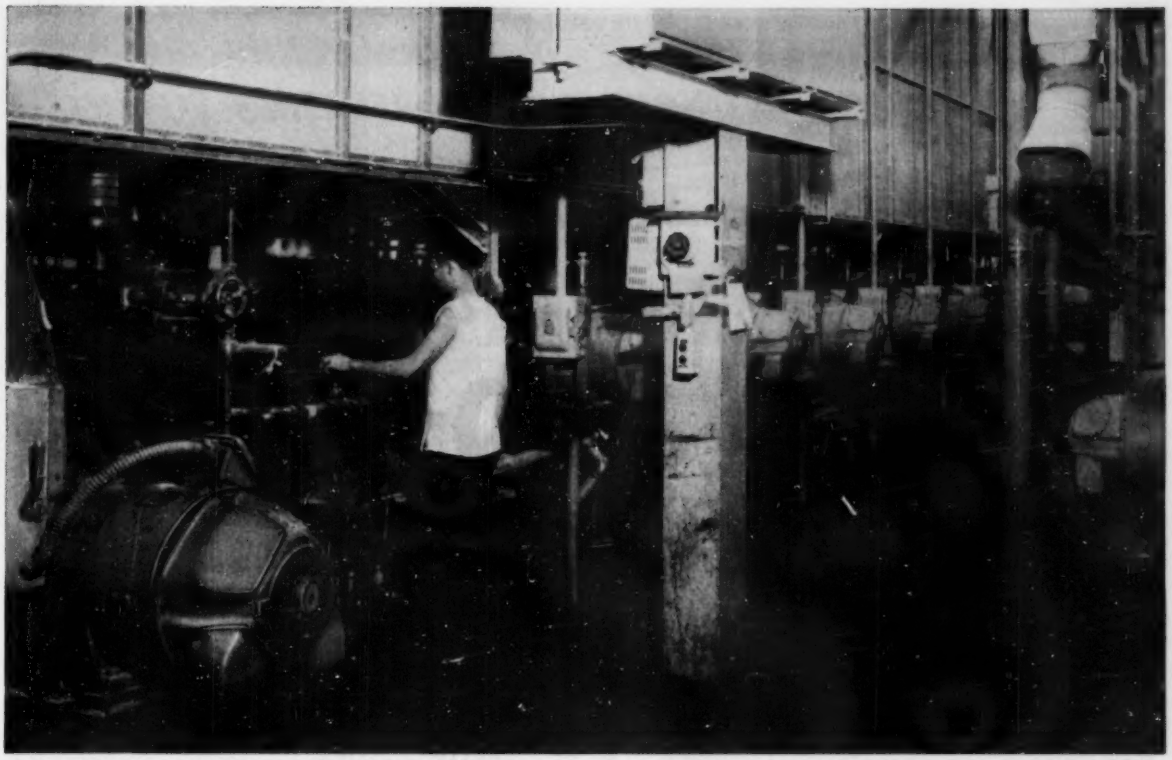
Compact drive gives Springs Cotton Mills' Grace Bleachery high speed finishing

Washing, drying, bleaching, mercerizing, dyeing—whatever your range operation may be—the General Electric packaged range drive can give you higher production per man-hour with lower maintenance costs.

Efficient co-ordination of the drive elements through centralized control is one of the factors making this increased output possible by providing accurate control of cloth tension at all operating speeds. This assures you maximum cloth uniformity with minimum supervision and thus with lower costs.

ONLY THREE STANDARD COMPONENTS make up the G-E adjustable-voltage drive system: the operator's finger-tip control station which can be installed in any convenient location; three-piece range-driving motors and their associated rheostats; and the packaged speed variator unit, containing motor-generator set and exciter, which can be located anywhere to conserve valuable range space.

YOU CAN CUT RANGE COSTS with the easy-to-maintain G-E three-piece gear-motors. They need no special mounting and may be easily removed for servicing without disconnecting the gears or removing the motor base from the foundation. Along with easy maintenance, sturdiness and smooth operation combine to assure you long life for the motor itself.



HIGH FINISHING OUTPUT of Spring Cotton Mills' Grace Bleachery is speeded by three-piece G-E gear-motors. Control system with master rheostat (on center post) provides finger-tip control of entire installation. Packaged power unit was easily located out of the range area. G.E. co-ordinated manufacture and delivery of nearly all drive equipment for this mill.

cloth-finishing output per man-hour

Check the advantages which the G-E packaged range drive can offer you:

SIMPLE TENSION CONTROL, accomplished with inexpensive compensating gates or other co-ordinating equipment

WIDE SPEED RANGES, available up to 8–1 without special equipment

CENTRALIZED CONTROL of range speed from a single location

SMOOTH, STEPLESS ACCELERATION AND DECELERATION with close speed control

EASY MAINTENANCE—motors may be removed for servicing without disengaging drive gears

DYNAMIC BRAKING for sudden stops and regenerative braking for controlled deceleration

YOU CAN PROFIT from other mills' experience. Mail coupon for additional details on G-E range drives or contact your nearest General Electric Apparatus Sales Office.

Mail this coupon for help in solving your range drive problems!

General Electric Co., Section H 654-33
Schenectady 5, N. Y.

Please send me without obligation your Bulletin GEA-5010 which gives the latest developments in G-E range drives.

NAME_____

COMPANY_____

ADDRESS_____

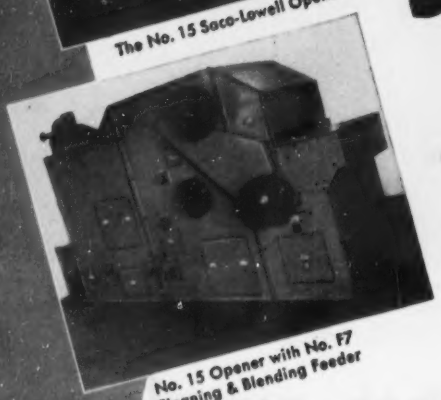
CITY_____ STATE_____

Engineered Electrical Equipment for Textile Mills

GENERAL ELECTRIC

INCREASE THE EFFICIENCY OF YOUR OPENING ROOM WITHOUT EXTRA OPERATING COST

The No. 15 Saco-Lowell Opener



No. 15 Opener with No. F7 Cleaning & Blending Feeder

No. 15 & No. F7 — Illustrating Connecting Pipe & Main Trunk to No. 11 Dust & Waste Extractor

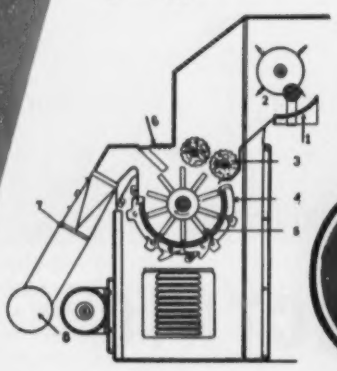
with the NEW SACO-LOWELL No. 15 OPENER

- REMOVES BROKEN LEAVES, STICKS & HEAVY IMPURITIES
- IMPROVES BLENDING
- PRODUCES FLUFFY, COMPLETELY OPENED STOCK BETTER PREPARED FOR PROCESSING BY OTHER OPENING LINE MACHINES

In *actual test* the new Saco-Lowell No. 15 Opener increased the amount of waste extracted by the opening line from 1.245% to 1.560%, an increase of 25.3%. This marked increase during the first cleaning process resulted in the removal of heavy impurities which heretofore were broken up and powdered, thereby making later extraction difficult and costly.

Increased cleaning in the opening line can be attained with the installation of the Saco-Lowell No. 15 Opener.

A *technical bulletin* describing the new Saco-Lowell No. 15 Opener is *available on request.*



1. Steel Bar Cleaning Grid
2. Steel Doffer
3. Wooden Delivery Rolls
4. Adjustable Grid Bars
5. The No. 15 Beater
6. Louvres for Air Intake
7. Connecting Pipe to Main Trunk
8. Main Trunk to No. 11 Dust and Waste Extractor

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

trouble, both with customers and within our plants, of the off-shades within the package.

In our estimation there are two major causes for this: the yarn is not properly wound onto the perforated tubes, and the quality of the dyestuff. We have never had two-color rain-grown cotton that we could not dye level, and believe me we have made plenty of tests in this respect.

Irrigated and rain-grown cotton should not be mixed.

The dyestuff people became so careless that we added a department which we call Quality Control of Dyestuff Materials where each lot is tested for strength and filtered. During the course of a year we returned to the dyestuff people a good many lots.

CONTRIBUTOR No. 8642

EDITOR TEXTILE INDUSTRIES:

I am quite sure we have all had various amounts of this same trouble at times. It is, of course, impossible to be specific, but I will mention several things to look for. I assume the trouble is happening on vat colors.

Pump pressure should be around 30 pounds. Pump packing should be inspected, could be sucking air.

Dyer should double check for proper amounts of caustic and hydro.

Packages may be too hard.

A natural question is, how much flow does the dye machine produce? The amount of flow for best results should be 3½ to 5 gallons per package per minute.

I would suggest that customer request some help from some of the dyestuff companies—panel of experts—to sleuth out the problem. Maybe it has disappeared by now; it sometimes happens.

CONTRIBUTOR No. 8643

EDITOR TEXTILE INDUSTRIES:

The problem of streaky package-dyed yarn is not a new one to us. It is simply a matter of mixed lots of yarn being wound on the same package. Upon examining the ends of the sample package in ultra-violet light, a difference in fluorescence was readily observed at different winding levels. When the package was rewound, we found a knot at the beginning and end of the level showing a darker fluorescence than that on either side.

Sample	Single End Breaking Strength, gm	Elongation to Break, %	% NU	Avg of Low Points
12A	585	6.42	84	13.0
12B	653	6.47	78	13.6

A length of yarn containing the knot was then tested for breaking strength, elongation, and uniformity. The yarn from the side which fluoresced darkly was designated 12A, whereas that fluorescing brightly was designated 12B. The results obtained are as follows:

It is presumed that the yarns showing different fluorescence at the two levels also dye differently. At least this is our experience. We did not actually carry out dye tests.

It will be noted from the test data obtained on yarns 12A and 12B that the latter is about 11.6% stronger than the former. There was no significant difference in elongation, but the per cent non-uniformity of 12B was significantly lower than that of 12A. The average of the low points on the Uniformity Analyzer recorder graph for 12A was also lower than that for 12B, showing that Sample 12A had thinner spots along its length than 12B.

All those data add up to give the conclusion that the yarns are significantly different, and this difference is responsible for the differential dye effect noted on the package dyed yarns.

CONTRIBUTOR No. 8690

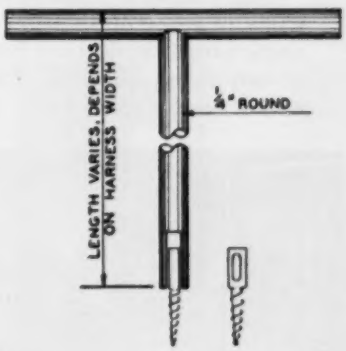
Make This Simple Tool for Replacing Harness Hooks

This item was submitted in a kink contest.

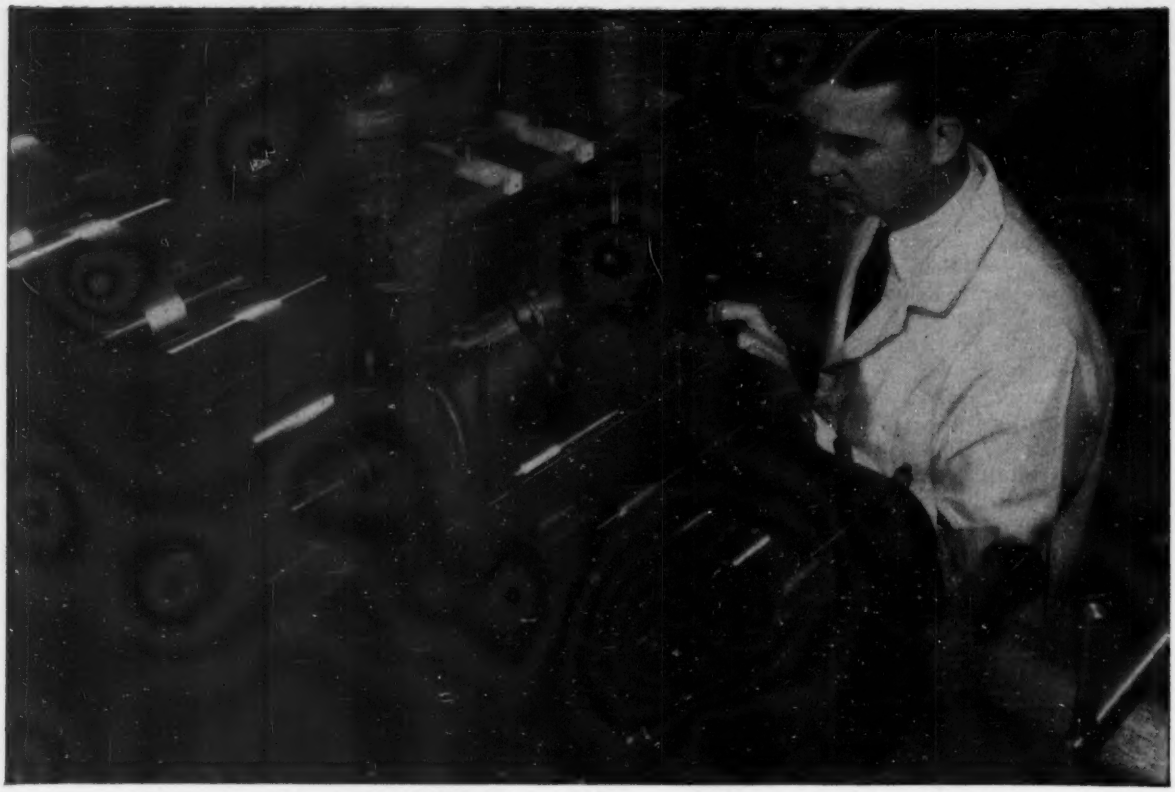
EDITOR TEXTILE INDUSTRIES:

Sometimes on heavy sley goods and where many harnesses are on hook which holds small harness rod, a harness hook breaks. It is a difficult job to replace a hook with pliers on a 20 or 24-harness loom, especially if the hook is broken on a harness in the center of the group.

We made a simple tool to replace this hook by taking a piece of ¼" round stock, putting a "T" handle on it, and cutting a ½" slot in one end. A hack saw was used to make the slot. The hook to be installed is put into the slot which holds it firmly. The rod is left long enough so that the handle extends a few inches above the harness. When the hook is screwed in to its limit, the rod is pulled up, and the hook is released. The accompanying sketch shows how the hook is held.



CONTRIBUTOR No. 8612



A view of the sizing and quetsch unit of the new pilot plant slasher assembly at Mellon Institute.

NEW PILOT PLANT SLASHER ASSEMBLY HELPS SOLVE TEXTILE PRODUCTION PROBLEMS

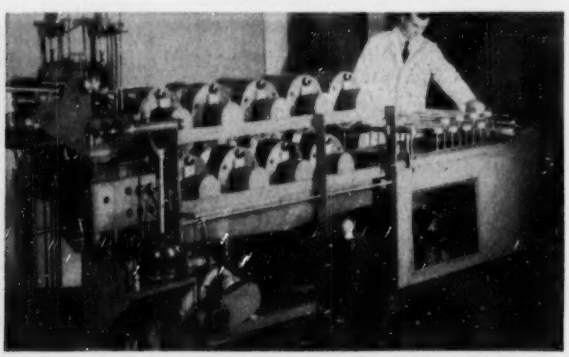
To supply the textile industry with up-to-the-minute factual information concerning starch sizes a highly integrated pilot assembly has been constructed at Mellon Institute in Pittsburgh.

This project is tremendously effective in the study of sizing of all types of natural and synthetic yarn manufactured from either staple fibers or continuous filaments. The flexibility of this entire assembly allows an approach to textile production problems from either a research or technical point of view.

This work is sponsored by the Multiple Fellowship program of Corn Products Refining Company. An interesting full-color brochure on this operation is available. Write today for your copy.

Corn Products Refining Company
17 Battery Place, New York 4, N. Y.

Major components of the entire slasher assembly are shown in the above photo.

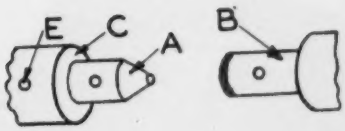


Another view of the highly flexible pilot plant slasher assembly. Note duplicate control panel by size unit.

Keep Those Filling Winders Running

EDITOR TEXTILE INDUSTRIES:

On our filling winder the bobbin is supported at the bottom end by a conical piece (bobbin center A in sketch), and the other end by a spring loaded bobbin support (B in sketch). The bobbin center A is threaded in the inner end and screwed onto a socket C in the spindle.



Frequent removal of this part causes the threads to wear excessively, and the spindle has to be stopped until replacement is effected. To avoid this difficulty, a tapped hole E is provided in the socket of the spindle, and the bobbin center is held in position by grub screw (setscrew). This saves us from an undesirable situation in that we cannot afford to keep spindles stopped.

CONTRIBUTOR No. 8646

How To Weave Glass Without Friction

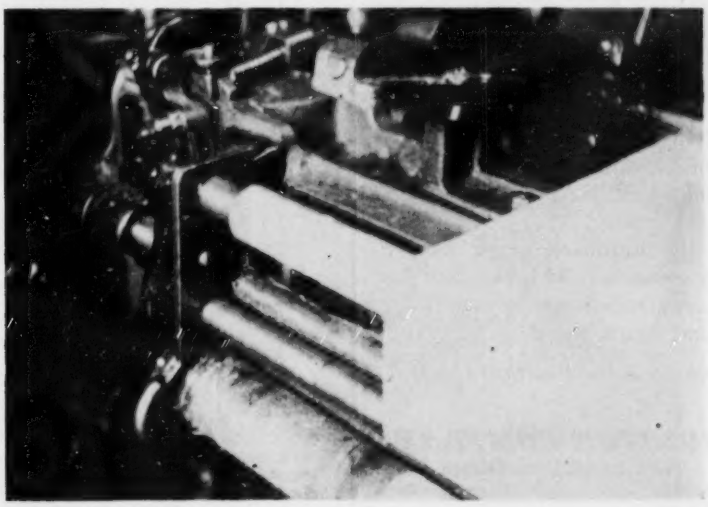
EDITOR TEXTILE INDUSTRIES:

We have devised a method to run scrim Fiberglas cloth without displacing it on XD looms. The construction is 20 x 20 made of 150/1/0 Fiberglas. This cloth must not rub on anything on its journey from reed to cloth roller, but it has to be rolled tight enough to get from five to seven hundred yards on a roll.

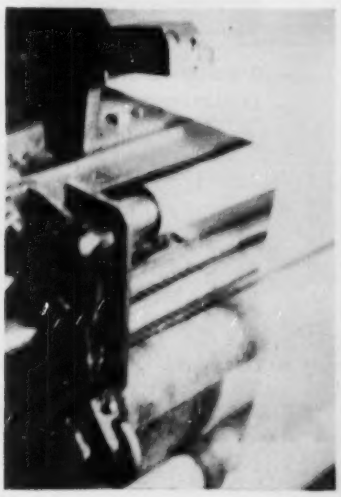
First, wood strip was removed from breast plate so cloth would not rub on it. Two plates were made from ¼" steel with dimensions as shown in the accompanying illustration. These plates were bolted to the breast plate bracket, one on each side of the loom. Two rollers (1" dia.) were cut to ⅝" on the ends to fit the holes in the brackets which serve as bearings. This brings the top roller in line with the race plate and the bottom one just below the shipper rod which operates the magazine.

We found this worked satisfactorily as long as warps were

BREAST BOARD BRACKET PLATE on each side of loom provides bearings for rolls. Two-inch rollers are installed in these brackets.



PAPER TUBE slipped over third roll prevented some slipping. Electric tape wrapped around tube provided more positive drive for the roll.



ASKANIA

EDGE POSITION CONTROL

on aniline press at Rexford Paper Co., Milwaukee, Wisconsin

The Rexford Paper Co., manufacturers of "Redcore" gummed tape and waterproof wrapping papers, uses Askania Edge Position Control on the unwind of a high speed Kohlbach aniline press operating at 750 ft. per minute. The gummed paper manufactured by this application is slit to printed tapes.

The Askania Edge Position Control holds edge position to within ± 1/32", saves costly and unsalvageable gummed paper in later slitting operations, and makes the press set-up faster and easier. Mr. Walter Westphal, Plant Manager says:

"What we like about the Askania is that it's a modulating control that's simple. For no more money than an ordinary on-off system, we have a control that is continuous, powerful, and fast.

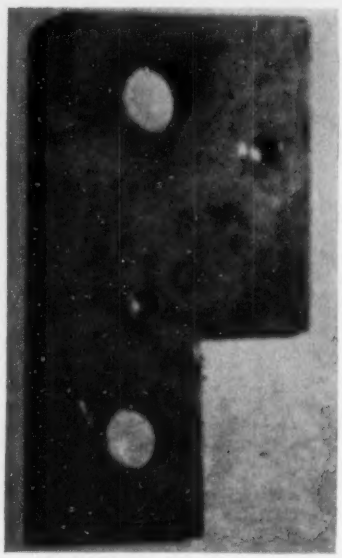
"Our own men can maintain it. We don't have to call in a factory expert if it gets out of adjustment. We've had two units working for a year and a half. Neither one has ever given us any trouble.

"Besides the installation on the Kohlbach press, we have an Askania installed on a combiner. This one has really been a life-saver. We've controlled nearly everything with it, including burlap and cotton scrim."

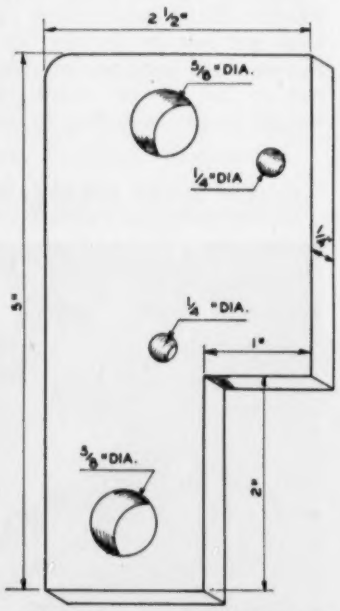
For details, ask for Bulletin 141, "Askania Edge Position Control."

ASKANIA REGULATOR COMPANY
240 E. Ontario Street, Chicago, Illinois
Subsidiary of General Precision Equipment Corp.

of an even tension, but when sections of ends were tight in center of warp, the top roller would bind. We solved the problem by slipping



BRACKET PLATE made from ¼" stock for application to breast board bracket to accommodate rolls.



DETAILS OF BRACKET PLATE. The ⅝" holes are not in line because top roller must extend farther out to clear breast plate and second roll must be brought as close to sand roll as possible.

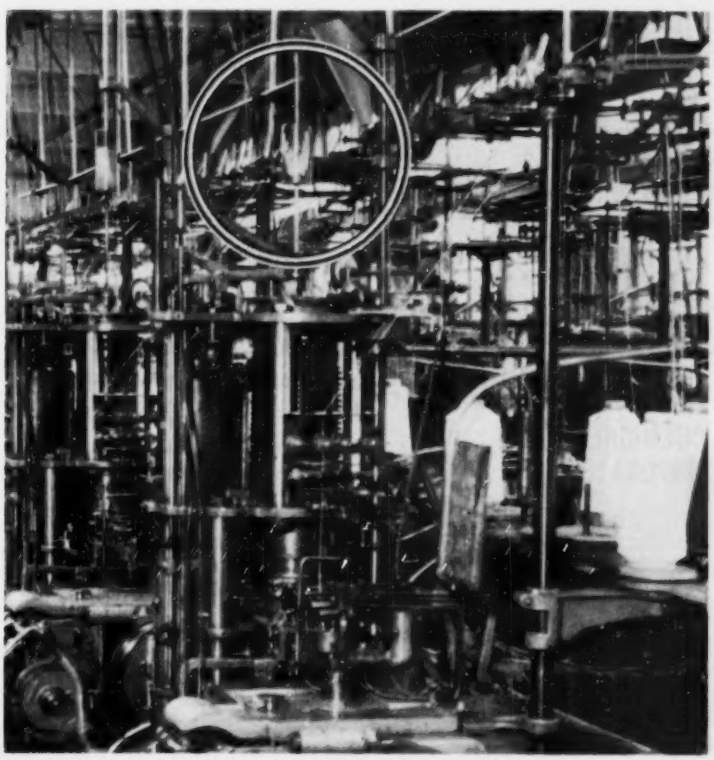
a paper tube over the top roller so the tube or roller or both are always free to turn. The second roller turns freely at all times because some of the strain is taken by the sand roller.

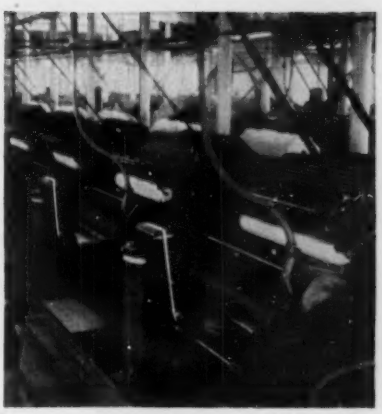
The cloth should not rub on the third roll (or spreader bar as it is called when it is tapered from the center). The friction on the cloth roller was so tight that it would misplace badly. We slipped a paper tube over this roll also and made sure it would turn at all times by applying some electric tape (see accompanying illustrations). The tape contacts the sand roll and thereby turns the paper tube constantly. This arrangement worked so satisfactorily that we are able to produce 8000 yards per week from six looms.

CONTRIBUTOR No. 8611

Painted Heel Pocket Weights Tell Knitter When Machines Stop

Painted heel pocket weights serve to indicate stopped machines in one progressive southern knitting mill. The weights usually revolve when the machine is in operation, but without the bright painted colors (such as yellow and orange), motion would be difficult to detect at any distance from the steel weights. Usually it is no easy task to detect stopped machines from one end of a row without a signal device.





Installation Over-head

ABINGTON

VACUUM CARD-STRIPPING SYSTEMS

provide amazingly efficient card stripping, at the same time offering *co-ordinated waste disposal*. These two inseparable operations are being accomplished on many thousands of revolving-top flat cards by Abington Vacuum Systems designed for either over-head or under-the-floor installation.

f measurable advantages enable a mill to liquidate cost of this installation in about three years: *Increased production*, because cards are stripped while running; *Labor costs reduced* as much as 50% over brush stripping; *Quality improved* because of the high efficiency of vacuum stripping plus elimination of damage to card clothing; *Operating economies* result from less grinding of card clothing, saving of power, and less need for attention to driving belts; *Substantial manpower saving* because of the simple system of waste collection and disposal.

Write for Booklet

ABINGTON TEXTILE MACHY. WKS.
NORTH ABINGTON, MASS.

or

LIBERTY LIFE BLDG., CHARLOTTE

Installation Under Floor

Sole Selling Agent
OTTO B. MAY, INC.
Mayvat* Dyestuffs, Salts & Bases

Exclusive Southern Selling Agent
REFINED PRODUCTS CORPORATION
and
PFISTER CHEMICAL WORKS INCORPORATED

Sole Selling Agents U.S.A. and Canada for
CARBIC COLOR & CHEMICAL CO., INC.

Exclusive Distributors for
PHARMA CHEMICAL CORPORATION
Pharmasols* — Pharmols*

Importers of the Manufactures of
DURAND & HUGUENIN S.A.,
BASLE, SWITZERLAND
Indigosols* — Novochromes*

Offices:
2511 LUCENA ST., CHARLOTTE 6, N. C. • 451-453 WASHINGTON ST., NEW YORK 13, N. Y.

Branches:
PROVIDENCE • PHILADELPHIA • HAMILTON, ONT. • COLUMBUS, GEORGIA • LOS ANGELES, CALIF.

*Registered Trade Mark

Comments on 'Factors Affecting Spinning Limits'

EDITOR TEXTILE INDUSTRIES:

The authors of the article "Factors Affecting Spinning Limits," which appeared in the August 1953 issue of TEXTILE INDUSTRIES, page 114, may create a wrong impression of the meaning of dispersion as derived from Dr. Martindale's formula for "random distribution" in a strand of fibers. The formula is derived from a Poisson distribution where the standard deviation

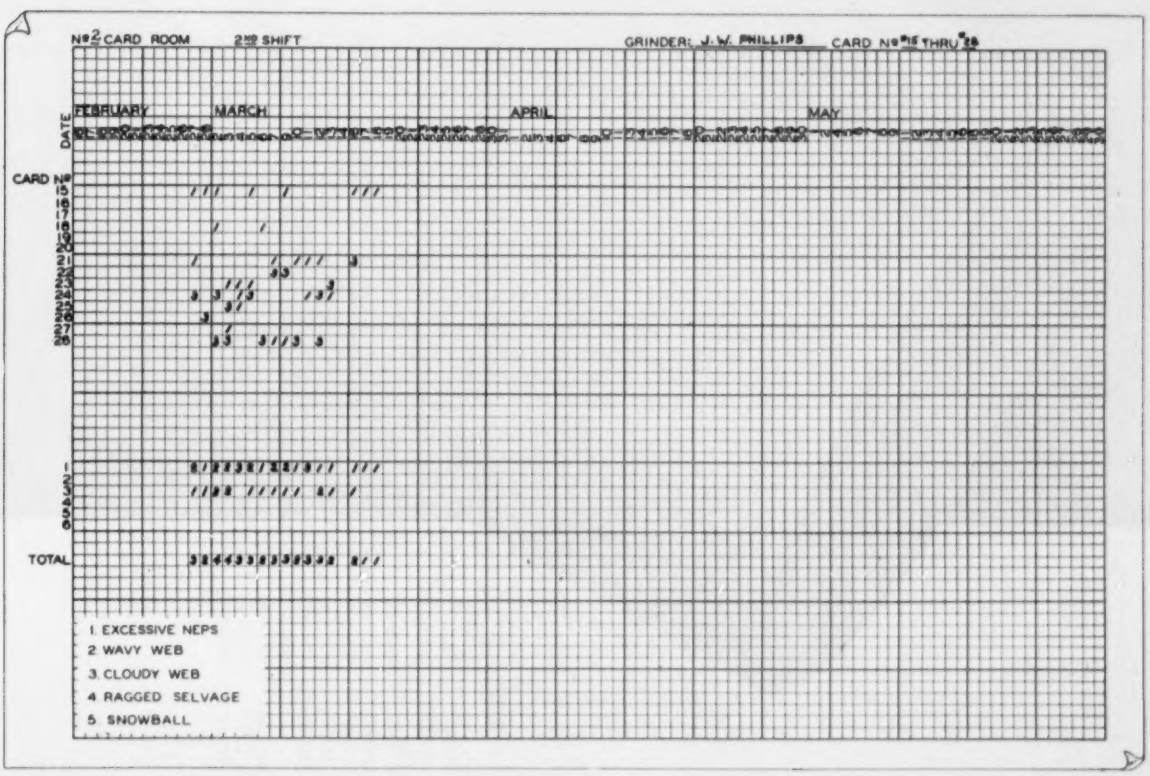
Check and Follow-Up Plan for Product Quality and Maintenance of Cards

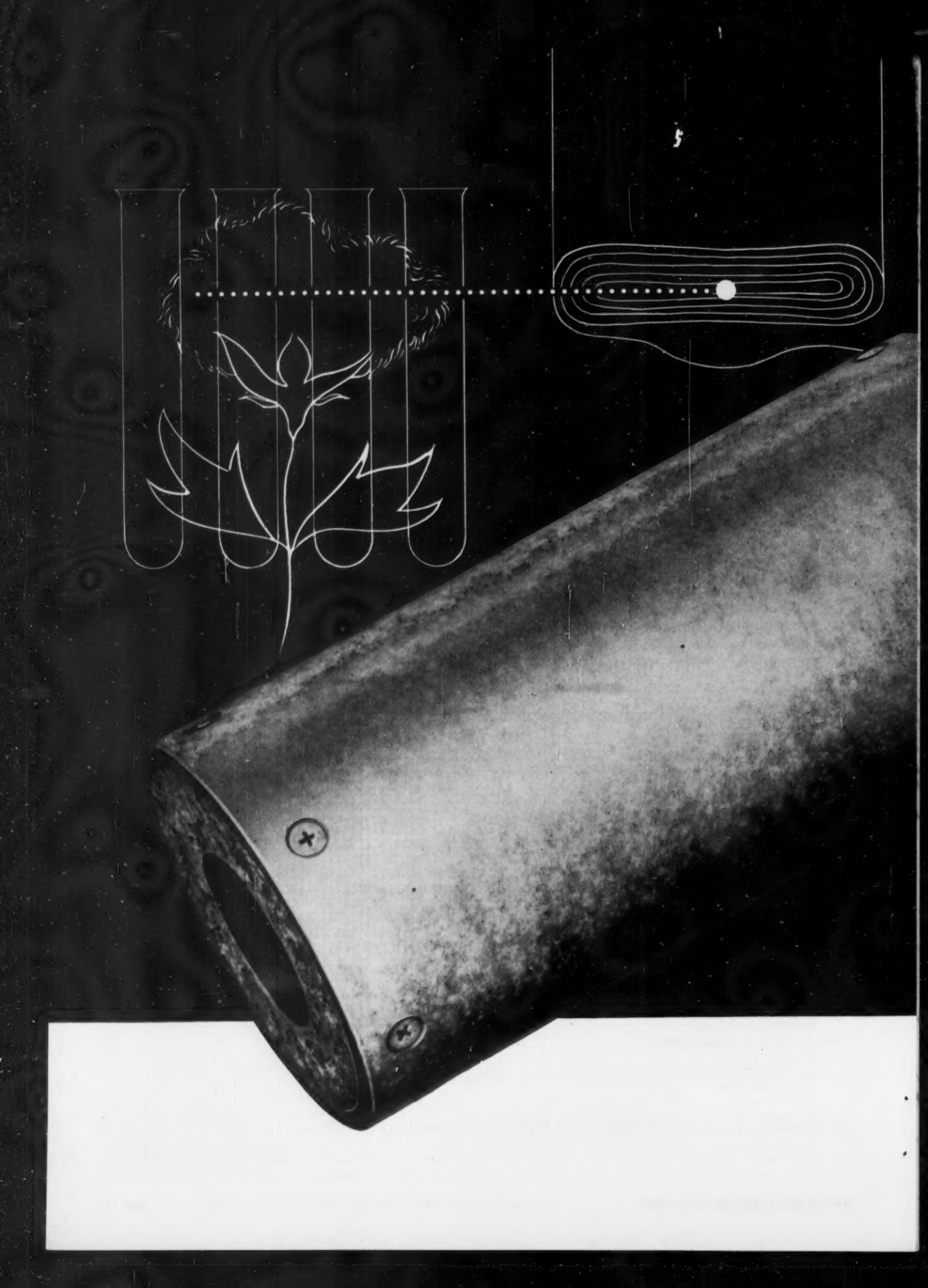
ONE LARGE southern cotton mill has an effective check and follow-up plan for quality in the card room as well as machinery maintenance in that department. Charts posted in a prominent place provide entry spaces for the number of defects of each variety that occur each day for each card.

A number code is used to designate the type of defect or trouble found: (1) indicates excessive neps; (2) indicates wavy web; (3) indicates cloudy web; (4) indicates ragged selvage; and (5) indicates snow ball.

At the end of each week the overseer can check each card on the sheet to determine the operating condition of the card, and the necessary adjustments or repairs can be ordered to bring the unit back up to par.

The accompanying illustration shows a sample record sheet with typical marks recorded. This sheet is made up to include an interval of more than three months and provides a permanent record of the operation of each card.





Here's what micarta® LAMINATED PLASTICS is doing to boost textile production

A leading textile mill wanted lighter, tougher lap rolls which would stay on the job longer. MICARTA® was the answer. Now the MICARTA lap rolls not only last months longer than the ordinary wooden rolls but their lighter weight permits up to three additional pounds of cotton to be wound on each roll. In addition, the MICARTA surface permits instant pick-up and wrinkle-free winding without the nuisance and expense of removing clinging bits of lap.

Here's what MICARTA can do for you

Light, tough, smooth-wearing MICARTA will pay off for you on products like spinning buckets, shuttles, bobbins, pirns, picker sticks and gears. On other textile applications, too, you can take advantage of its ability to withstand and "cushion" heavy vibration and shock . . . to reduce nerve-wracking noise. MICARTA means economy, less maintenance, more production.

Remember that Westinghouse-developed MICARTA is a thoroughly proved basic material. For the complete story on MICARTA call your nearest Westinghouse office or just fill out the coupon below. J-06542

YOU CAN BE SURE...IF IT'S Westinghouse

Westinghouse Electric Corporation • MICARTA Division, Trafford, Pa. • Attention: L. A. Pedley

micarta® is basic!

Sir: (Please check one)

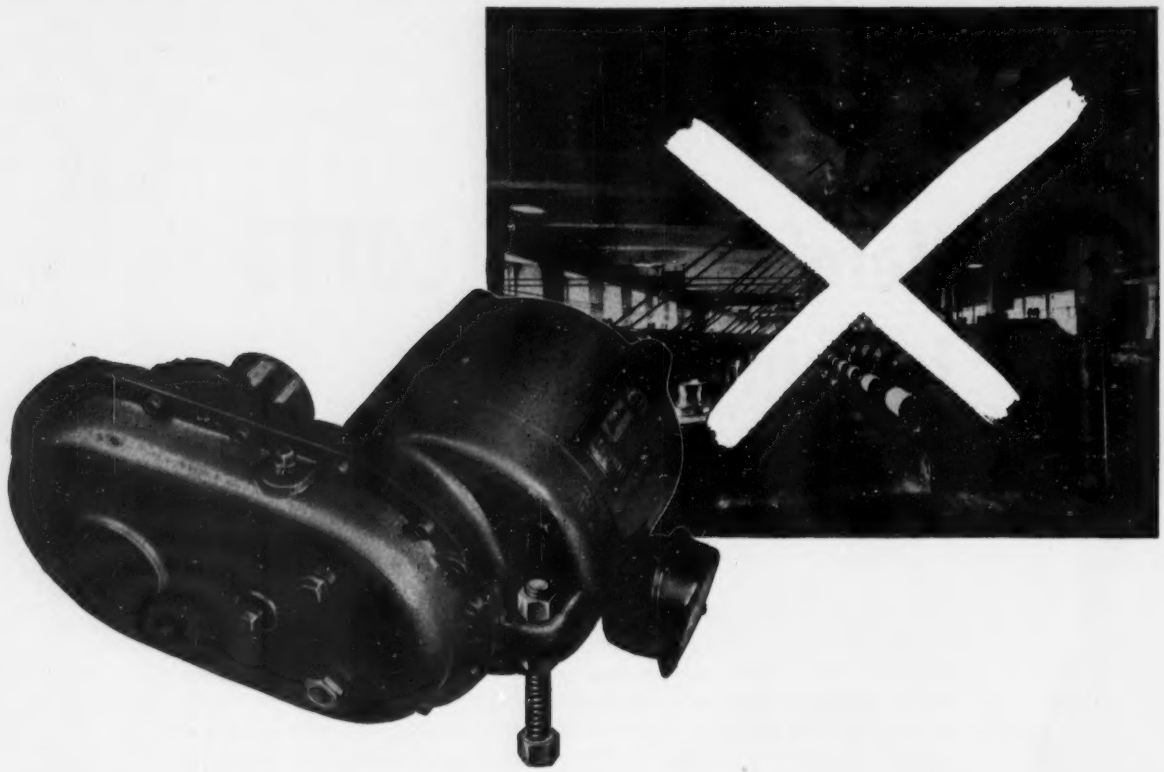
☐ Please have your representative call

☐ Please send me the complete facts on MICARTA

Name_____ Company_____

Address_____

City_____ Zone____ State_____



NEW SHAFT-MOUNTED DRIVE

clears overhead . . .
solves many card room problems

Westinghouse specially designed this compact Cotton Card Drive to mount directly on card cylinder shaft. Installation of this advanced drive presents no alignment problem.

With all belting eliminated, the chance of slippage is erased . . . steady production can be maintained. Absence of belts also means greater safety, increased lighting effectiveness and clearer aisles.

Maintenance Low... Efficiency High—Simple design and rugged construction of Westinghouse Cotton Card Drives mean a minimum of servicing required. These integral drives have a marked maintenance advantage over a complex network of belts. The efficiency of these double reduction units is rated at 96%, and the squirrel-cage motor powering them has ample starting torque to handle difficult card loads.

Change-over No Problem—Transition from your present drive method to Westinghouse Card Drives can be quickly accomplished without reshuffling cards. Installation on one or a group of cards can be effected without disrupting the entire card room operation.

Obtain full information on this latest card drive advancement. Write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-07338

YOU CAN BE **SURE**...IF IT'S
Westinghouse

is equal to the square root of the mean: $\sqrt{N}$. The coefficient of variation is this latter figure expressed as a percentage of the mean:

$$CV = \frac{100\sqrt{N}}{N} = \frac{100}{\sqrt{N}}.$$

Poisson distributions as applied to yarns (with the mean N being large) are considered as being Gaussian in nature; therefore nearly the whole of the distribution can be considered to lie within ± 3 standard deviations from the mean and not ± 1 as given by the authors.

In the case cited; if $N = 70$ and the CV due to random distribution $= \frac{100}{\sqrt{70}} = 12\%$ approximately, then the range may be considered to be $\pm 36\%$ and not $\pm 12\%$. Further, when calculating a new spinning limit, they again make a similar error. If the new mean is 58 fibers, the standard deviation will be $\sqrt{58} = 7.6$ and the low limit of range will be $58 - 3 \times 7.6 = 34$ fibers and this, with a "perfect" yarn, which with present fiber control methods cannot be made. Therefore, since this figure is lower than the author's low limit of 35 fibers, the yarn simply would not spin.

CONTRIBUTOR No. 8665
(*Canada*)

Save Time with Additional Arm on Cloth Folder

THE operator of a cloth folding machine at Elberton Mills, Elberton, Ga., knew that he was doing more work than necessary to fold drapery and upholstery fabrics on bolt boards. He handled the cloth roll too many times. After thinking about the problem, he suggested an addition to the machine so it would not be necessary to change rolls of cloth so many times.

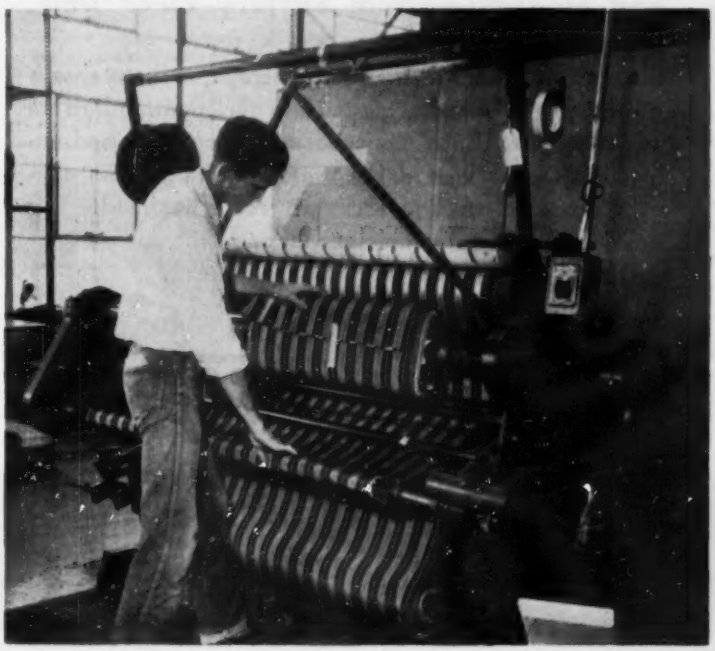
The supervisor brought the matter to the attention of the work simplification committee. Several persons examined the machine and designed a jig to hold an additional roll which now eliminates about half the handling.

A new pair of center holders for paper tubes was mounted on the frame as shown in the accompanying illustration. Now the operator can fold a piece and then run the remainder off on another tube without any delay. All machine adjustments and one complete handling were eliminated. The cloth is measured as it runs on the machine. The operator removes the folded piece while the remainder is running off on the tube, thereby saving considerable time.

The operator formerly put a roll of cloth on the machine, folded the required yardage, removed the remainder and laid it aside. Upon completing the folding, the operator had to rewind the pieces left over and which he had laid aside. These had to be wound on tubes, tagged to show the amount of yardage, and placed back into storage.

The cost of altering the folding machine was slight, and the operator only has to do half as much lifting as formerly. About half of the pieces had to be rehandled and rolled on tubes. A 50% increase in production on this machine has been evidenced since the change was made.

NEW PAIR OF CENTER HOLDERS for paper tubes was mounted on the frame, and all machine adjustments and one complete handling of the cloth rolls were eliminated.



What the TEXTILE MILLS are doing

(Continued from page 42)

been reduced, important not only from a cost reduction standpoint, but also to the quality of the carpeting. The narrow velvet looms have been relocated on the third floor of the building that houses the wide looms. Instead of being driven by big leather belts running over long drive shafts hung from the ceiling, they are individually powered with their own electric motors mounted right on the side of the loom frame. This change has made possible the installation of traveling overhead bridge cranes, as well as the installation of continuous strip fluorescent lighting. Offices as well as production areas have been completely done over to provide neat, efficient, and well-lighted facilities.

Sponge Rubber Products Co., Shelton, Conn., now has two divisions for different branches of production: a carpet division to manufacture a line of new wool carpet with rubber backing; and a foam and hair division for rubberized curled hair used for bedding and upholstery cushioning.

Springs Cotton Mills, Lancaster, S. C., have placed orders for about $5,000,000 in bleaching and drying equipment, as well as air-conditioning, for installation in its various mills.

The recently chartered **Specialty Fibres Corp.,** Cumberland, R. I., is manufacturing synthetic fabrics. Clarence Tickell, 28 Williams St., Cambridge, Mass., is principal incorporator.

Textileather Corp., 607 Madison Ave., Toledo, Ohio, has under construction two one-story buildings at its plant, to be used for warehouse service. The cost is reported to be about $200,000.

The **United States Rubber Company** recently gave a supper honoring nineteen suggestion award winners from the Stark, Reid, and Asbeston, plants. A. C. Link, manager of the three Georgia plants, pointed out that the company is eager to receive ideas for new productions, improvements, reduction of costs, etc., and employees are encouraged to turn in as many suggestions as possible.

Irving I. Godman, 475 Fifth Avenue, New York, N. Y., is attorney and representative for **Weislu, Inc.,** organized to operate a dyeing and finishing works for textile fabrics.

Wilson Brothers have discontinued permanently operations at the Aetna Mill, Troy, N. Y.

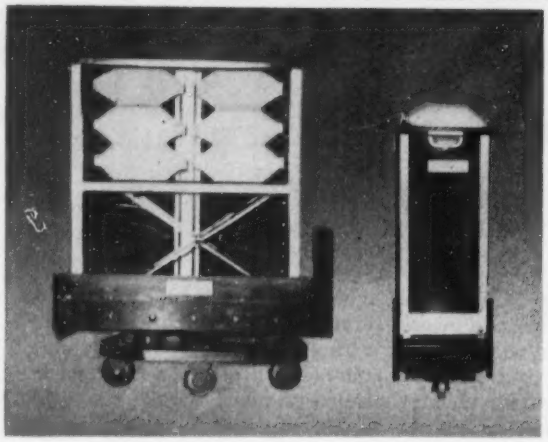
Woonsocket (R.I.) Spinning Co. has changed its name to **Lamourex Co.**

World Carpet Mills have begun production in the former Dalton, Ga., mill of Katherine Rug Mills. Their output will be expanded with production of broadloom carpeting and scatter rugs, as well as the short loop cotton rugs now manufactured.

York Finishing Co., Pawtucket, R. I., has been organized to operate a textile dyeing and finishing mill. Owen P. Reid, 307 Newman Ave., Rumford, R. I., is principal incorporator and representative.

The Blackstone (Mass.) Mill of the former **Lonsdale Co.,** recently operated by Textron Inc., has been liquidated.

J. R. Newell, head of **J. R. Newell Co.,** Carrollton, Ga., novelty yarns, has announced that employment at



LEFT. Cutaway side view, showing how floating bottom box keeps packages always at operators hand level.

RIGHT. Front end view, showing how loaded box can be rolled on or off conveyor equipped truck.

SIDE VIEW END VIEW

FISHER CREELER'S TRUCK

and Floating-bottom Battery Filler Unit

(Patent applied for by Fisher Mfg. Co., Hartwell, Ga.)

Packages are stored in an orderly manner, and are always at hand level, without stooping, in this floating-bottom Creeler's truck. Use of conveyor rollers on truck bed enables rolling the loaded box, without lifting, from conveyor-equipped storage racks at frame headends. This combination unit saves time and labor. Write us for literature explaining this operation in detail.

Representatives

Carolina Supply Co., 35 W. Court St., Greenville, S. C.
Textile Specialty Co., Box 1297, Greensboro, N. C.
J. W. Davis, 122 Dillingham St., Columbus, Ga.
Thos. A. Davis, 412 Swift Bldg., Columbus, Ga.

FISHER MANUFACTURING CO.
MATERIALS HANDLING EQUIPMENT, TEXTILE
BOX 244 -- HARTWELL, GEORGIA

that mill has reached 35 persons. The firm is temporarily occupying a part of the former Mandeville Mills plant.

Amedee Prouvost & Sons, Roubaix, France, the world's largest manufacturer of processed wool, is building a multi-million dollar factory in South Carolina, capable of turning out 20 million pounds of processed wool every year.

Rhody Knit, Inc., Central Falls, R. I., has arranged for an increase in capital stock for general operations and expansion.

Dave Bartlett, in charge of operation and maintenance of all Grey Mill air conditioning units at **Riegel Textile Corp's** Trion, Ga., mill, has been awarded $929.00 by the Suggestion Committee for the idea of an automatic continuous screen washer for the thirteen Grey Mill air conditioning units. With the continuous washers the screens, which formerly had to be cleaned of lint every two hours by hand, require cleaning now only every twenty-four hours (see story in TI for Dec., 1953, page 97).

Frank Russell Glove Co., Berlin, Wis., has been purchased by **Ripon (Wis.) Knitting Works.** The operation will continue under its present name as a wholly owned subsidiary of Ripon.

Worcester Weavers, Inc., has moved from Worcester to a mill in Northboro, Mass., formerly occupied by Northboro Woolen Mills.

News in Brief

(Continued from page 79)

Textured Yarn to Be Called "Taslan". "Taslan" has been adopted as the trade-mark for textured yarn made by Du Pont's bulking process, a mechanical method of changing the ioft, texture, covering power, and feel of normal yarns. By this process, yarn size is increased about 20 to 30 per cent, and up to 50 per cent experimentally. In some instances, continuous filament yarns have been modified to resemble spun yarns.

Spinning Test Results Available. The annual "Summary of Fiber and Spinning Test Results for Some Varieties of Cotton Grown by Selected Cotton Improvement Groups" is available for the crop of 1953, from the Cotton Division, Agricultural Marketing Service, USDA, Washington, D. C.

Strength at Home. America can best be kept strong through regulation of foreign trade by tariffs, is the theme of "Strength at Home," publication No. 135 of the American Tariff League, Inc., 19 West 44th St., New York 36, N. Y. The book presents the League's position on tariffs and the "Trade Not Aid" program, as an expansion of its testimony before the Commission on Foreign Economic Policy.

Worth Street Still Primary Textile Market. The Worth Street community represents, and will continue to represent the primary textile market of the world, according to John M. Reeves, Reeves

Material: Caustic solution—for use in mercerizing machines.
Problem: Rotary pumps wore quickly, lost capacity, and had too little suction.
Solution: Moyno pumps cut maintenance and repairs to minimum—had ample suction for drawing caustic through the cloth.

Material: Textile Starch Sizing.
Problem: Other positive displacement pumps broke down starch; needed frequent maintenance.
Solution: Moyno pumps starch at 25 p.s.i. with no churning or turbulence. Pump maintenance has been reduced to minimum.

Material: Size—china clay and latex.
Problem: Centrifugal pump unable to handle viscosity—causing frequent trouble.
Solution: Moyno pump has been on duty for a year. Pump trouble completely eliminated; no repairs.

Material: Chromic Acid.
Problem: Material hard on pumps—being slightly corrosive and abrasive.
Solution: Moyno pump on duty for the past two years; has required practically no maintenance. Customer very well pleased.

Four Textile Production Problems Solved By The MOYNO PUMP!

Features of the MOYNO that may solve YOUR pumping problem

Positive Displacement — Moynos pull up to 29" vacuum while discharging under pressure. Big Moynos deliver up to 250 g.p.m. at pressures to 600 p.s.i.

Gentle — No churning; won't break up semi-solids; won't aerate liquids.

Reversible — pumps with equal efficiency in either direction.

Versatile — handles liquids, slurries, pastes—even potato salad! Rotor and stator available in stainless steel, other alloys, or plastics to meet wide variety of applications.

Trouble-Free — self priming; won't cavitate or vapor-lock. Just one moving part—no valves to stick, no pistons to gum up. Built for tough service. Easy to maintain.

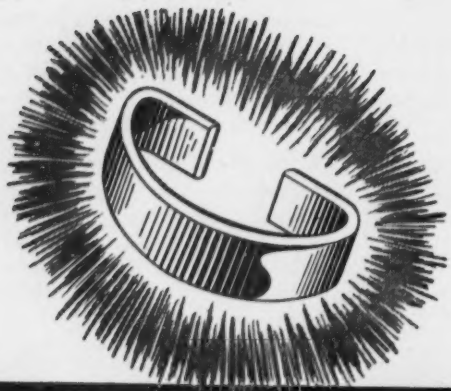
ROBBINS & MYERS • Inc.
SPRINGFIELD 99, OHIO • BRANTFORD, ONT.

Looking for a pump with a fast-growing reputation for solving tough problems? Take a look at the simple, versatile Moyno!

Briefly described above are a few of the many successful case histories proving how Moynos handle jobs where other pumps failed. Why is the Moyno a "problem-solving" pump? For one thing, because it differs completely from conventional pumps—rotary, centrifugal or piston. Just one rugged moving part—a rotor turning within a stator—does the job.

If *you* have a pumping problem caused by abrasive or corrosive materials—watery, viscous or even semi-solid—find out if the Moyno can help you! Mail the coupon.

Robbins & Myers, Inc. TI
Pump Division, Springfield 99, Ohio
Gentlemen: Please mail free copy of Bulletin 30-B containing details on construction and operation of Moyno Pumps:
*Name*_____ *Title*_____
*Company*_____
*Address*_____
*City*_____ *State*_____

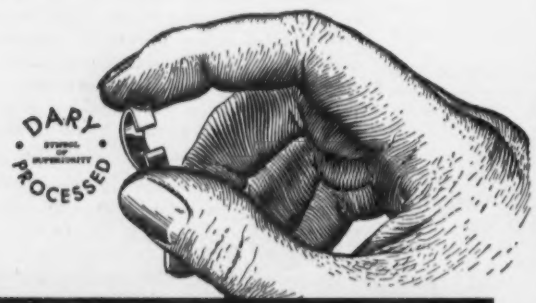


DARY
Ring Travelers

A WELCOME RING

Dary Ring Travelers . . . these words have a welcome ring to millmen throughout the textile industry. For many, many years Dary has meant dependable spinning and twisting performance, however difficult the assignment.

The next time your Dary representative calls, welcome him, for he carries a wealth of experience and offers the finest quality travelers available anywhere.



THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

SOLVING
MANY PROBLEMS!

Perhaps your industry has a particular process that requires a superior reducing or bleaching agent, preservative, antichlor, pH control, or neutralizer. Tennessee's highest quality Sulphur Dioxide will fit the need. In most operations, the use of this chemical (SO_2) with its manifold uses results in more efficiency and increased economy. We can supply Tennessee's highest quality Sulphur Dioxide in cylinders, ton drums, tank cars, and tank trucks. Let our technical experts show you how you might employ it to your greatest advantage.

CONTAINERS

- **Cylinders**
- **Ton Drums**
- **Tank Trucks**
- **Tank Cars**

TENNESSEE TC **CORPORATION**

617-29 Grant Building, Atlanta, Georgia

Brothers, Inc. Actually, only a few of the larger textile firms have moved or plan to move uptown, while the overwhelming majority have elected to remain in Worth Street.

Longer Swimwear Sales Campaign. Swimwear sales campaign of the National Knitted Outerwear Association will be extended for the entire summer this year, instead of being concentrated in a single week in June as in previous years. A Swim Girl of the Month will be selected each month for June through September as part of the campaign.

Fire Prevention Tip. Spread a thin layer of dry, non-flammable chemical over the area to be cut, before cutting oily steel plates, fire prevention engineers advise. Otherwise, flames from the cutting torch may quickly heat the oil deposits to the ignition temperature.

Dyeing Acrilan-Wool Blends. Two single-bath methods are available for dyeing Acrilan-wool blends, according to W. H. Hindle, associate director of research for the Chemstrand Corp. One method, currently in production use, involves the use of acid dyeing premetallized dyestuffs; the other, now being evaluated, employs dispersed acetate for the Acrilan and neutral dyeing premetallized dyestuff for the wool. No carriers are needed in either case.

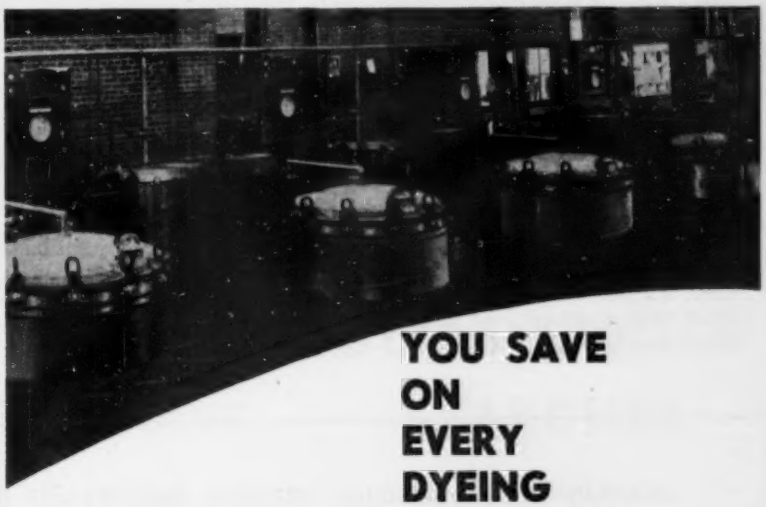
Cotton Price Support Levels Set. The minimum level of price support for 1954-crop upland cotton, basis Middling ⅞ inch, will be 31.25 cents per pound, gross weight, the USDA has announced. Support level will be 65.25 cents per pound for extra long staple, net weight. These prices are 90% of current parity, and will be increased if parity levels are higher at the beginning of the marketing year, August 1, 1954.

Improved Selvage. A well-known southern cotton mill has developed a device for making a "flat" selvage on fabrics with excess contraction, so that the goods can be rubberized under high tension without breaking on the selvage. Based on the principle of the loop selvage, the device is applicable to fabrics which are desirable to be woven without ply or double ends in the selvage, or fabrics having the selvage of the same density as the body of the fabric.

Dope-Dyed Perlon. Polyamide fibers are available for the first time in dope-dyed form, according to Farbenfabriken Bayer AG in announcing commercial production of spun-dyed Perlon. Current production is about 100 tons per month.

Labor Rulings. Court of Appeals for the Eighth Circuit has interpreted the duty to bargain provi-

News in Brief



YOU SAVE ON EVERY DYEING OPERATION

WITH GASTON COUNTY'S RUGGED DYEING MACHINES!

High pressure, high temperature dyeing of today's new synthetic yarns is a precision process. To maintain top level performance, all Gaston County package dyeing machines are equipped with DYEMASTER Controls. Gaston County's *positive control* and *unequaled ruggedness* of construction assure greater economy of operation and upkeep.

WRITE TODAY FOR ILLUSTRATED LITERATURE

GASTON COUNTY DYEING MACHINE CO.

Pioneers in Automatically Controlled Dyeing Machinery

STANLEY, N. C.

Gaston County Dyeing Machine Co.
Terminal Building, 68 Hudson St.
Hoboken, N. J., G. Lindner, Mgr.

The Rudel Machinery Co., Ltd.
614 St. James St. W., Montreal
137 Wellington St. W., Toronto

News in Brief

sions of LMRA to include a no-strike clause in all collective bargaining contracts in ruling that employees lost their status as employees and the right to reinstatement by striking before the expiration date of the collective bargaining contract. Court of Appeals for the Seventh Circuit has ruled that an employer's recognition during an organizational dispute of an independent union upon presentation of a petition showing more than a majority was "a legitimate, if not the mandatory, course of action."

Textron's Southern Mills Show Profit. The southern cotton mills of Textron Incorporated operated at a profit during 1953. On the other hand, the year was particularly difficult for producers of acetate and rayon synthetic fabrics, said Royal Little, chairman. "Because of their extremely poor showing, all our remaining New England operations are being run out," he said. The elimination of these plants will stop the heavy drain which they have placed on our profitable mills, Mr. Little stated.

Japanese Textile Production. Japanese woolen yarn and fabric production in 1953 was 41.9% above the average for 1934-1936. Synthetic yarn production in Japan was up 75.5% on the same basis; silk fabric production was down 61.6%; and synthetic fabric production was up 32.8%.

Increased Promotion for Wool. The virtues of wool, which are too frequently taken for granted, are to be emphasized in an advertising campaign being prepared by The Wool Bureau. "If wool had been born only this morning, people would think it was one of the greatest things that ever happened to mankind," Max Schmitt, Wool Bureau head noted.

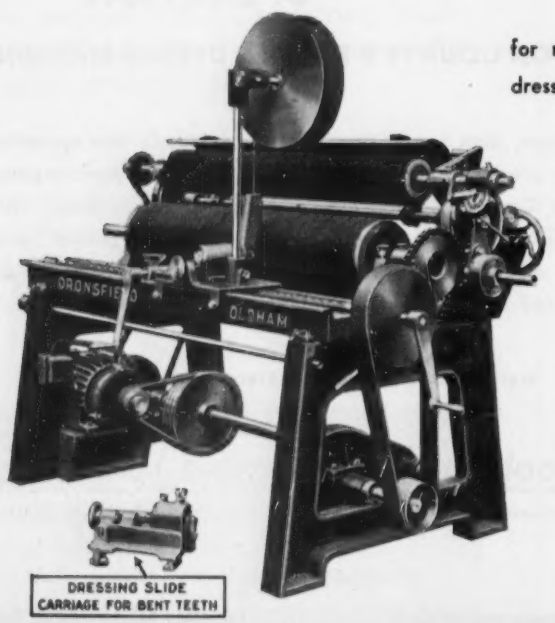
An Executive Views the News in Textiles

(Continued from page 83)

most mills have been having terribly rough sledding. There is no question that production has been maintained at an exceptionally high level, at least until December 1953, but that does not mean much if you are not selling what you produce. In like manner, it does not mean much if you are selling what you produced at a break-even figure.

This writer is certainly not in a position to predict the future of the textile industry but you do not have to be able to read palms or gaze into crystal balls to tell what has been happening. By the time this appears in print we may have begun the upturn, but as of this writing figures speak for themselves.

LICKER-IN ROLLER GRINDING, DRESSING, RECOVERING & BURNISHING MACHINE No. 163.



for maintenance of taker-in rollers for grinding, dressing, recovering and burnishing.

Sole Agents for Dronsfield's Machinery:—
John Hetherington & Sons, Inc.,
N. Marietta St. Ext., Gastonia, N. C.

DRONSFIELD BROTHERS LTD · OLDHAM · ENGLAND

SUPPLIERS News

WHAT THEY ARE DOING

Alfred Hofmann Needle Works, Inc., has concluded agreements to represent H. Krantz and H. Krantz Soehne of Aachen, Germany, in the field of textile dyeing and finishing equipment.

New representatives for **Allis-Chalmers Manufacturing Co.'s** transmission equipment in the southeast and central regional offices are, respectively, C. F. Kucera and Harold H. Ackmann. Both have been with the firm since 1946.

The Research division of **American Cyanamid Co.** has appointed Dr. Harold R. McCleary as manager of pigments research. He joined the firm in 1941 as research chemist in the former Calco Chemical division.

Changes in the general staff organization of the industrial division of **Armstrong Cork Co.** are as follows: D. P. Paiste, assistant general sales manager of the industrial division; C. T. Potts replaces Mr. Paiste as

Mr. Paiste

manager of felt and fibrous products department; and D. M. Smith, formerly assistant manager of the industrial adhesives department, takes over Mr. Potts' position as manager of the shoe products department.

American Machine and Metals, Inc., has appointed R. M. Hammes assistant general sales manager in charge of the Niagara Filters division and the Tolhurst Centrifugals division. Mr. Hammes joined the firm in 1943 as director of its training program.

American Pfaff Company is now general representative in the United States for the Pfaff sewing machines manufactured by G. M. Pfaff Ag. of Kaiserslautern, Germany. **Pfaff Industrial Sewing Machine Corp.** continues as a division of American Pfaff for the sale and service of the firm's wide line of shoe, garment, and other needle trades machines. Paul Zellweger is president of both organizations.

James J. Fine has been appointed sales manager of the **American Supply Co.,** and will continue calling on the firm's accounts in Maine and parts of southern New England.

Ansul Chemical Co. has announced that eleven industrial fire training schools will be held during 1954 on the firm's fire test field, beginning May 24 and running through Septem-

CHAMBRAY
LAWN
INTERLINING
NAINSOOK
TICKING
OSNABURG
NETTING

FLANNEL
ORGANDY
OXFORD
DENIM
SHEETING

IMPERIAL
NANKING
CHINTZ

CLINTON

STANDARDIZED STARCHES

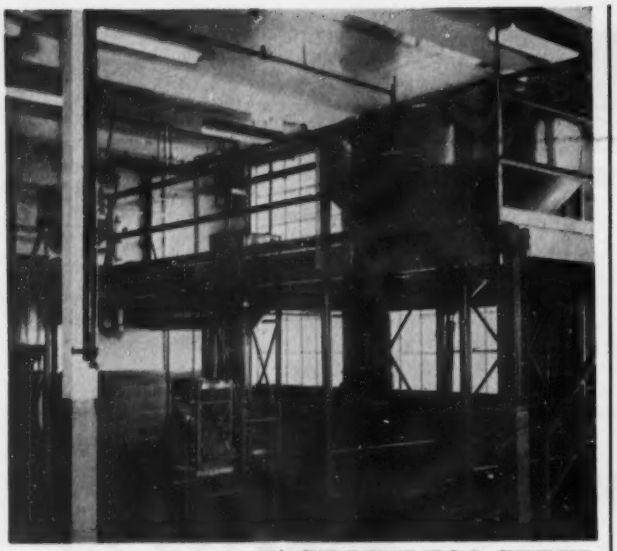
FOR THE SIZING AND FINISHING OF

TEXTILES

CLINTON FOODS INC.

CORN PROCESSING DIVISION

CLINTON, IOWA



for economy it's STAINLESS STEEL

Down go maintenance and operational costs when you switch to stainless steel! Corrosion, wear and break-down resulting from them are eliminated by the use of this modern wonder metal . . . Consider replacing your old-fashioned hard to clean and maintain pressure vessels, acid tanks, dye vats or starch kettles with SIMS built stainless steel equipment.

for Quality it's SIMS

With one of the most modern and progressive metal working shops in the south, the technical "know-how" of SIMS craftsmen and the SIMS guarantee of quality products, you are assured of equipment built to your *exact* specifications.

For Custom Tailoring of Stainless Steel . . . Call, wire or write today.

FABRICATORS SINCE 1928

Sims METAL WORKS

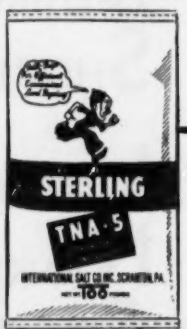
WEST POINT, GA.

STERLING TNA-5

superior textile dyeing reagent... clear brilliant colors... softer finish...

SIX-WAY VERSATILITY FITS YOUR NEEDS, LOWERS YOUR COSTS

1 Efficient, economical replacement, pound for pound, for anhydrous sodium sulphate in a neutral dye bath. *2* Neutral, readily soluble in either cold or hot water. *3* Can be used in either the dry fine granular form or automatically converted to fully-saturated brine with the TNA-5 Dissolver. *4* Eliminates dye precipitation, produces a good color yield, level shades and a soft finish. *5* Can be used in a neutral dye bath when dyeing cotton, rayon, wool, or any blend of these fibers—in the staple, yarn or piece goods. *6* Especially effective with Direct or Naphthol dyes, it produces excellent crock fastness and clear, brilliant colors.



For Best Quality Dyeing, Order Your TNA-5 Today!

In 100-lb. bags and bulk

INDUSTRIAL DIVISION
INTERNATIONAL SALT CO., INC.
Scranton, Pennsylvania

SALES OFFICES: Atlanta, Ga. • Chicago, Ill. New Orleans, La. • Baltimore, Md. • Boston, Mass. • St. Louis, Mo. • Newark, N. J. • Buffalo, N. Y. • New York, N. Y. • Cincinnati, O. Cleveland, O. • Philadelphia, Pa. • Pittsburgh, Pa. • Richmond, Va. ENGINEERING OFFICES: Atlanta • Buffalo • Chicago

SUPPLIERS News
WHAT THEY ARE DOING

ber 20. These are held for plant fire marshals, safety directors, fire brigade leaders, and military and municipal fire suppression officers.

A. A. Michel has been named to head the Nashville territory for **Benjamin Electric Manufacturing Co.** New among Atlanta's staff is R. H.

Mr. Hiller

Hiller, previously with Curtis Lighting.

Arnold, Hoffman & Co., Inc., recently held special ceremonies at its Dighton, Mass., plant honoring employees who had been with the firm twenty and thirty years or more. Watches were presented to 29 men in recognition of their service with the company. The company has added a new pigment laboratory and expanded the analytical and development section of its Providence, R. I., sales service laboratories.

The **Arrow Needle Co.,** a subsidiary of **Textile Machine Works,** has acquired the assets of **Stelton Needle Co.,** Stelton, N. J. Herman Blickle, former owner, has been retained as superintendent of the Stelton division.

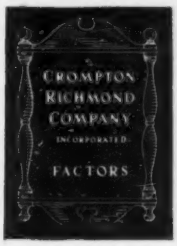
Eight $1,000 college scholarships for science students who will be seniors during the 1954-55 college year, have been set up by **Atlas Powder Co.** Successful candidates will have a chance to gain practical experience by summer work in one of Atlas' twelve plants or four research laboratories, or with an Atlas technical field representative. Pay will be in addition to the scholarship. However, the students will not be obligated to work for Atlas. A new member of the firm's textile chemicals research staff is Edward M. Simon, Jr., previously with American Viscose Corp.

Stanley H. Rose is now special assistant to the general sales manager of **Celanese Corp. of America's** textile division. He was formerly with the market development department.

The **Portland Co.** of Portland, Me., manufacturers of the Chapman Electric Neutralizer, has announced the retirement of four key men—George H. Chapman, son of the inventor of the Chapman process, who joined the firm in 1912; Merle S. Pennell, who joined the firm in 1905; Daniel H. Speidel, who completed 45 years of continuous selling of the Chapman Neutralizer; and Charles F. Sullivan, originally with United Printed Machinery Co., who took over installation of Chapman equipment when the two companies affiliated.

The Chemstrand Corp. has announced that its Chemstrand nylon now is available in commercial quantities. The construction of the nylon plant at Pensacola, Fla., is proceeding, and as additional facilities are completed, they are being thoroughly tested.

Container Corp. of America has acquired 33 acres of land in Santa Clara, Calif., for expansion of produc-



The Human Factor

We're In Business, Too...

What's more, we're in business in the South. What does that mean to you? It should tell you that we are well-acquainted with the snags and blocks Southern firms encounter in the daily course of business. It should tell you that we ourselves deal with sources of supply and distribution analogous to those *you* deal with.

Crompton Factoring is ready to make both its experience and its dollars available to you. Our dollars immediately replace your receivables. We take over the whole job of collection; and we also take over the credit risks. Our experience in the South is so well recognized that more and more Southern firms have found it highly advantageous to Factor with Crompton.

Representatives:
L. N. HUFFSTETLER, Box 605, Gastonia, N. C. • VON D. OEHMIG, Green Island Hills, Columbus, Ga.

CROMPTON-RICHMOND CO., INC.
1071 Avenue of the Americas, New York 18, N. Y.

SUPPLIERS News
WHAT THEY ARE DOING

tion facilities in that area. Construction of an 85,000 sq ft folding carton plant is expected to begin soon. In Fernandina Beach, Fla., the corrugated plant now under construction will render improved service to box users throughout the South. Other news of the firm is that John D. Spence has resigned as vice-president.

James W. Cox, textile engineer of New York, has appointed Douglas G. Woolf, Altadena, Calif., as his representative for the Pacific Coast. Mr. Woolf was formerly associated with the McGraw-Hill Publishing Co., and is west coast associate for Fessenden Blanchard & Morrell, marketing and management consultants of New York.

J. D. Hershey, with the firm for 24 years, has been made director of sales promotion and advertising of the **Dayton Rubber Co.** R. L. Wetzel, previously in charge of both advertising and public relations, is now director of public relations.

William F. Okey, formerly with Wrenn Hosiery Co. and Burlington

Mr. Okey

Mills Corp., has joined the Charlotte, N. C., office of **Ciba Co., Inc.**

P. D. Morrow, formerly representative for **Dixie Mercerizing Co.** in the Carolina-Virginia territory, has been transferred to the Chattanooga offices as sales manager. Now in that territory, along with Wilbur Evans, is W. C. Henderson, who joined the organization on March 1.

The Dobeckmun Co. has moved its New York offices to the Empire State Building. Its new Lurex yarns were presented at a combination fabric exhibit, development clinic, and fashion show in Boston recently. Of special interest was Lurex staple, which can be blended into a variety of yarns to achieve a subtle random effect in the fabric.

Eastman Chemical Products, Inc., has announced that Charles P. Bertland, sales manager of the textile division, is now making his headquarters in Kingsport, Tenn. Garrison C. King has been placed in charge of the New York district sales office.

Emery Industries, Inc., has opened a direct sales office and warehouse in Cleveland, Ohio. William J. Siemens, Jr., and William C. Sowers have been assigned to the new office and will be responsible for the sale and service of all Emery products.

M. L. Fillippeli, Jr., formerly with Burlington Mills Corp. and Onyx Oil & Chemical Co., has joined the tech-

Mr. Fillippeli

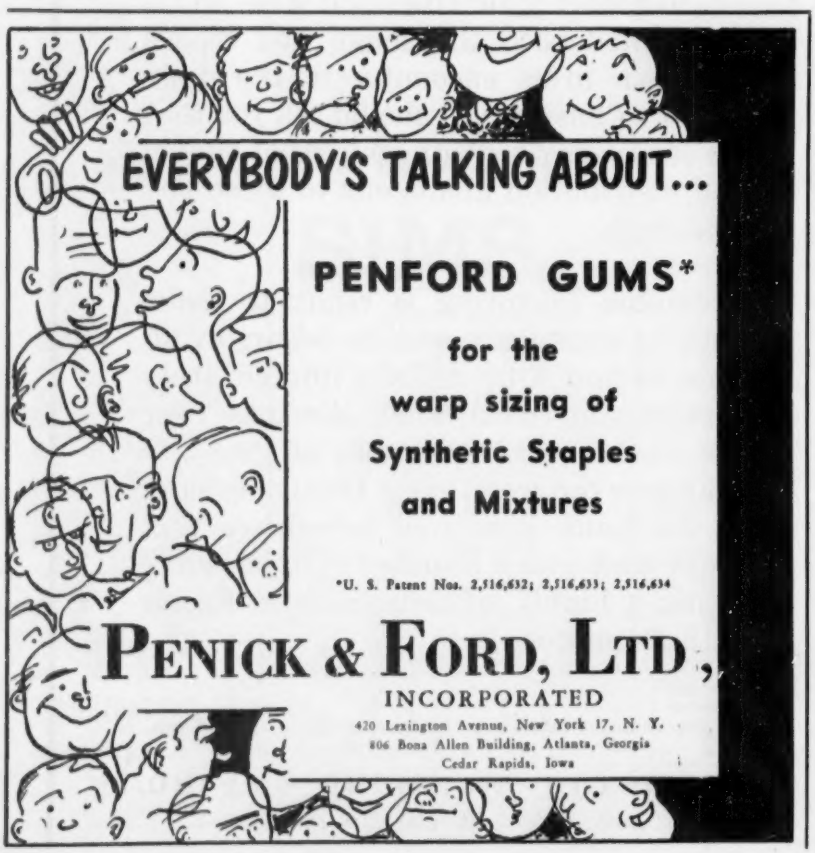
nical sales staff of **Emkay Chemical Co.** He will represent the firm in Virginia and the Carolinas.

The **Walter F. Fancourt Co.** is celebrating its 50th anniversary in business this year.

J. J. Finnigan Co., Inc., in business since 1888, has moved its general offices to 722 Marietta St. N.W., Atlanta, Ga., in one of the most modern buildings constructed in Atlanta's industrial district in recent years. Of reinforced concrete, faced with brick, the building is completely air conditioned. The firm has also opened a sales office in Dallas, Texas, and is planning one for Houston, Texas.

A three-day sales conference was recently held by General Dyestuff Corp. and Antara Chemicals, sales divisions of **General Aniline & Film Corp.** Included in the agenda was a four-hour inspection tour of General Aniline's dye-manufacturing plant in Rensselaer, N. Y.

The new firm of **Gaston Chemicals, Inc.,** manufacturers of dyes and



chemicals, is being located near Gastonia, N. C. Construction of the plant will begin next month. President of the new concern is Dr. A. C. Baggenstross, a native of Berne, Switzerland, who has been in Albany, N. Y., with a chemical company for the past seven years.

Gaylord Container Corp. recently celebrated a milestone in reforestation in the United States when the number of pine tree seedlings planted on its tree farms in Louisiana and Mississippi reached one hundred million. The site of the event was previously occupied by a sawmill, which closed down years ago when it exhausted the supply of timber in the area.

The New Departure division of **General Motors Corp.** has announced the appointment of Robert H. Wilkie as supervisor of sales promotion. He will be responsible for advertising and will coordinate sales forecasts, market research, and sales training. Matthew C. Wagner was made supervisor of sales training.

Graver Water Conditioning Co. has established an industrial waste department, headed by Robert J. Keating. Before joining Graver last year, Mr. Keating was with Orchard Bros., Inc.

New St. Louis district manager for **Goodyear Tire & Rubber Co.'s** industrial products division is Robert J. Burns. He replaced C. O. Roome, retired. B. E. McClelland has taken Mr. Burns' place in Chicago; K. E. Reed

Mr. Gerrow

succeeds Mr. McClelland in Madisonville, Ky.; P. P. Pevich replaced Mr. Reed in Jacksonville, Fla.; and H. V. Atkinson has gone to Chattanooga, Tenn. The chemical division has formed a new southeastern territory, with headquarters in Atlanta, Ga. William F. Gerrow is in charge.

E. H. Jacobs Northern and Southern Divisions of **The Bullard Clark Co.** have been appointed exclusive distributors to the textile industry for **A. L. Watson Co.'s** TMCO automatic lubricator.

Heany Industrial Ceramic Corp., New Haven, Conn., has announced the appointment of **Ralph Gossett & Co.**, Greenville, S. C., as its southern representative.

Johnson Motor Lines, Inc., has added to its sales force Walter H. Savage, 835 Wylie St., SE, Atlanta, Ga., and J. O. Newton, 1313 Iris Drive, Charlotte, N. C. W. B. Walton, formerly traffic representative in Atlanta, has been promoted to district sales representative.

New vice-presidents of **Arthur A. Little, Inc.**, are Dr. Lawrence W. Bass and D. Reid Weedon. Stuart Hedden and William Webster were named directors.

Manning, Maxwell & Moore, Inc., has announced the formation of **Manning, Maxwell & Moore of Canada, Ltd.**, at Galt, Ontario. Officers of the new firm are: Hamilton Merrill, president; Chester H. Butterfield and Colby M. Chester 3d, vice-presi-

L. F. Dommerich & Co. Inc.

Executive and General Offices

271 MADISON AVENUE

NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

•

BUSINESS ESTABLISHED 1840

The EMBLEM OF QUALITY METAL SHIELDS

For Spools and Bobbins

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields regardless of when you buy spools and bobbins.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

SUPPLIERS News — WHAT THEY ARE DOING

dents; John A. Flynn, controller; Clark I. Scott, secretary; and Thomas F. Cummings, assistant secretary.

W. Bradford Dunson and Cecil A. McAbee have been added to the sales force of **R. E. L. Holt, Jr. & Associates, Inc.,** manufacturers representatives. Mr. Dunson, formerly with Simonds Co., will cover South Carolina along with J. B. Adams, who has been with the firm two years. Georgia and Alabama comprise the territory covered by Mr. McAbee.

Mr. Dunson

Mr. McAbee

Herbert Products, Inc., Woodhaven, N. Y., has been named eastern distributor for heating panels manufactured by the Corning Glass Works.

Meese, Inc., has appointed Fred J. Petersen direct sales representative for California, Nevada, Utah, and Arizona. A sales office has been opened at 4645 Olympic Boulevard, Los Angeles.

Ernest Nathan has resigned as chairman of the board and treasurer of **Metro-Atlantic, Inc.** Hugh J. Bonino, vice-president and secretary, is now also treasurer. The company's New York office has been closed and its functions transferred to the Paterson, N. J., office.

Miller Motor Co. has changed its name to **Miller Fluid Power Co.**

C. L. Peterson has been made divisional vice-president and O. B. Wilson, general sales manager, of the Brown Instruments division of **Minneapolis-Honeywell Regulator Co.** Mr. Peterson has been with the firm since 1927, Mr. Wilson since 1923.

Multi-Clean Products, Inc., has developed a 4x6" cardboard device, known as the Multi-Clean Florule, which provides a ready reference of valuable information on how to treat various types of floors. It is available free through Multi-Clean distributors.

S. F. Sylvester has been appointed sales manager in charge of textile resins for **Monsanto Chemical Co.**

The **American Leather Belting Association** has changed its corporate name to **National Industrial Leather Association.**

Norris Brothers, Greenville, S. C., have announced that they are now being represented in Louisiana, Mississippi, Alabama, north and eastern Georgia, North and South Carolina, Virginia, and Tennessee by **R. E. L. Holt, Jr. and Associates, Inc.;** in Texas, Oklahoma, and Arkansas by **W. H. Gibson,** 1919 Hicks Ave., San Antonio; and in southern and western Georgia by **J. S. Harper,** Griffin.

Orr & Sembower, Inc., has appointed William B. Firman manager of domestic sales of the firm's Powermaster packaged automatic boilers.

Pittsburgh Plate Glass Co. has purchased the fiber glass manufacturing facilities and other assets of the glasfloss division of Tilo Roofing Co., Inc.

Francis B. deLoach has joined **Seydel-Woolley & Co.** as sales representative in the warp sizing division. He is calling on the mills in the Carolinas, with headquarters in Spartanburg, S. C.

Mr. deLoach

A plant addition to its Ashtabula (Ohio) Division is being constructed by **The Reliance Electric and Engineering Co.,** and will be used to produce the firm's new line of alternating current motors.

Robertshaw-Fulton Controls Co. was recently awarded a certificate of cooperation by the Mutual Security Agency for furnishing technical assistance during the plant tours by industry teams from various European countries. The program began in 1949. A Veterans of Foreign Wars

Carbic-Moss Corp. Has Complete Range of Chemicals and Dyes

Formation of Carbic-Moss Corp., which combines the selling divisions of Carbic Color & Chemical Co., Inc., and the Dyer S. Moss Co., Inc., has been announced.

This new organization is the exclusive selling agency for products of **Carbic Color & Chemical Co.,** including Pharmasols and Pharmols of the Pharma Chemical Corp. and Indigosols and other imported specialties of Durand & Hugenin S.A., Basle, Switzerland. In addition, the corporation is sole selling agent for **Otto B. May, Inc.,** and southern agent for **Refined Products** and **Pfister Chemical Works, Inc.**

President of the new firm, general office and laboratories of which are located at 2511 Lucena St., Charlotte 6, N. C., and 451-453 Washington St., New York 13, N. Y., is Dyer S. Moss; executive vice-president is Carl V. Kuhl II; vice-president in charge of sales, Thorwald Larson.

District managers are: New York, John Nissl; Charlotte, N. C., Edward Grayson; New England, Thorwald Larson; Columbus, Ga., Thomas Davis; Philadelphia, Pa., John Linton; Hamilton, Ont., J. Travis Broadbent; Los Angeles, Calif., Hathaway Allied Products.

Mr. Moss Mr. Kuhl

Award was also given the company, for its services to returning disabled war veterans and other veterans. More than 40% of the Robertshaw Thermostat division's employees are veterans.

J. O. Ross Engineering Corp. has begun construction of a plant in Los Angeles, Calif. It will be completely equipped for straight line production, and will have its own railroad siding, with fully enclosed carloading facilities. In Montreal an addition to the plant of Ross Engineering of Canada is under construction, which will provide 25% increase in manufacturing capacity.

Francis J. Kinsella, formerly midwest regional sales manager, has been made manager of outside sales by the **Standard Pressed Steel Co.**

Eddie Webb has been appointed manager of **Sonoco Products Co.'s** Mexican subsidiary, Sonoco de Mexico. He succeeds Hartridge Miller, who is returning to the States in July.

Isidore Peters has been appointed technical sales representative for the **Warwick Chemical Co.** division of **Sun Chemical Corp.** His territory is New York, New Jersey, and Pennsylvania.

L. C. Stowell Engineering Co., Charlotte, N. C., has been appointed representative in the southern area for the textile division of **Tower Iron Works.**

Harry B. McClure succeeds J. G. Davison as president of Carbide and Carbon Chemicals Co., a division of **Union Carbide and Carbon Corp.** Frederick H. Nystrom has joined the textile fibers department of Carbide and Carbon, and will act as technical sales representative for Dynel in the New England area.

United States Rubber Co. has appointed Virgil C. McQuiddy sales manager for all yarns manufactured by the textile division. Joseph B. Jackson is assistant sales manager. R. J. Keane succeeds Mr. Jackson as head of the Reading, Pa., office.

J. Hugh Bolton, president and general manager of the **Whitin Machine Works,** was recently elected a member of the National Shawmut Bank's board of directors.

Henry B. Siegler is now sales manager for the Wilson-Martin division of **Wilson & Co.** He was previously with E. F. Drew & Co.

Wyandotte Chemicals Corp. has appointed F. M. Zorn assistant to the sales manager, general products group, inorganic chemicals; L. M. W. Behm, manager of order and scheduling; and Scott Starkey, southwestern sales representative for the Michigan Alkali division.

Are You Getting a Fair Day's Work for a Fair Day's Pay?

As Production Engineers we specialize in the utilization of

LABOR — EQUIPMENT — MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"We have employed on various occasions the services of American Associated Consultants. We have always found their work satisfactory."
A LARGE KNIT GOODS CONCERN

Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

AMERICAN ASSOCIATED CONSULTANTS, Inc.

D. S. KEOGH, President
250 PARK AVENUE
NEW YORK 17, N. Y.

GRANT BUILDING
PITTSBURGH, PA.

H. B. CRAFT, Vice President and Manager of Operations
30 CAMDEN ROAD
ATLANTA, GA.

A Proved Performer the WPF&M
HOT AIR SLASHER

HOT AIR DRYING at its best

UP TO 1500 LBS. PER HOUR

REASONABLE INITIAL COST

LOW OPERATING COST

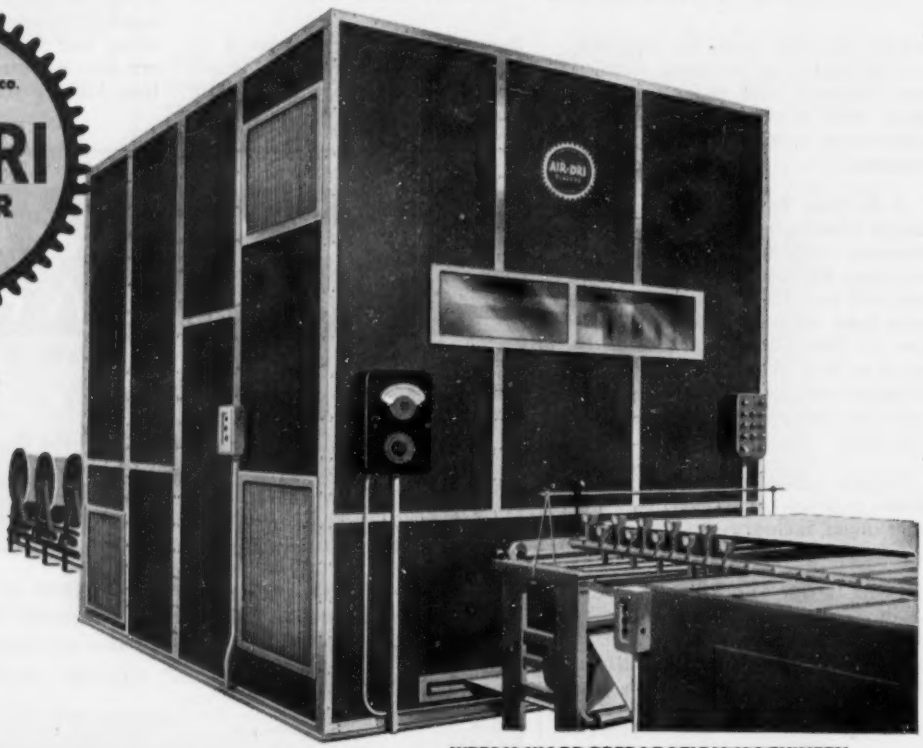
Here's a new high-production hot-air slasher, designed for natural or synthetic fibers, capable of greatly increasing production with little increase in space requirements.

With efficient new Air-Dri Slashers as replacements for out-of-date equipment, you can, in many cases, double and triple your slasher room output, eliminate overtime and greatly improve warp quality.

Yarn is 40% dry by the time it reaches the first guide roll because a wet splitting device divides the yarn into layers as it enters the dryer.

We will be glad to furnish you with detailed specifications for the advance-design Air-Dri Slasher on request.

WEST POINT FOUNDRY & MACHINE CO.
AIR-DRI SLASHER
WEST POINT, GA., U.S.A.



WPF&M WARP PREPARATION MACHINERY

Air-Dri Slashers — Multi-Cylinder Slashers
Cyl-Air Slashers — Callaway Sample Slashers
WPF&M Hi-Speed 4 Cylinder Slashers
Standard 2 and 3 Cylinder Slashers

SLASHER MODERNIZATION EQUIPMENT

Hi-Speed Head Ends — Special Width Head Ends
Additional Cylinders — Multi-Motor Drives
Stretch Control Units — Equi-Tension Creels
Temperature, Speed and Tension Control Devices
Size Boxes, Size Kettles, and Size pumps
Corduroy Cutting Machines and Brushers

WPF&M

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

HELPFUL BOOKLETS FREE!

On this and the following pages is an excellent library of free textile literature. Select the books which will be helpful to you and list their numbers on the coupon.

Mail to TEXTILE INDUSTRIES.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

5-1 8-Beam Multiple Dyeing. Information on the Morton System Horizontal Beam Dyeing machine is available. Features include minimum handling of beams and the use of a common or individual dyebath for as many as six beams. Write Morton Machine Works, 1718 Third Avenue, Columbus, Georgia.

5-2 Textile Electronic Tubes. In the modern textile plant there are many electronic devices which depend on Electronic Tubes. Specialty Distributing Co. offers information on their services with regard to prompt replacement of these. Write Specialty Distributing Company, 425 Peachtree Street, Atlanta, Ga.

5-3 Cylinders, Aspirators, Top Combs, Etc. Booklet pictures and describes various products offered by Gastonia Textile Sheet Metal Works and Gastonia Comber Needling Co. For a free copy, write to above-named firms, Gastonia, North Carolina.

5-4 Precision Textile Wood Parts. Brochure lists some of the more than 400 Precision Textile Wood parts manufactured by G. F. League Manufacturing Co. Drawings of each part are included. Write G. F. League Manufacturing Co., Greenville, South Carolina.

5-5 Treatment of Synthetic Textile Finishes. High speed drying and curing of synthetic finishes by means of far-infrared radiation is covered in a new 22 page folder entitled "The Textile Report" by Edwin L. Wiegand Company, 7700 Thomas Blvd., Pittsburgh 8, Pa.

5-6 Nopco Chemical Data Sheets. Now available are Nopcostats, Nopco Sizes N and D, Important points in Warp Sizing, Interpretation of Analysis, Wetting Agents, Balanced wool and worsted oils, Acetate Warp Sizing, Viscose warp sizing, Rayon soaking. Write Nopco Chemical Co., Harrison, New Jersey.

5-7 Educational Film on Lubrication Problems. 35 mm film lasting 15 minutes shows how good plant lubrication can cut production costs in machine down time, machine repair and service, waste of lubrication, etc. Write Stewart-Warner, Alemite Division, 1826 Diversey Parkway, Chicago 14, Illinois.

5-8 Polymers for Textiles. Brochure covers the Polyco emulsion polymers available to the textile industry in a wide range of polymer and copolymer compositions possessing varied physical and chemical properties. Write American Polymer Co., Peabody, Mass.

5-9 Economical Packing and Shipping of Textiles. New catalog by Stanley Steel Strapping Division is of interest to everyone concerned with packing and shipping products as efficiently as possible. Write The Stanley Works, New Britain, Connecticut.

5-10 Transmission Equipment. Booklet provides reference for figuring correct Transmission equipment. Contains complete figures, diagrams, dimensions, capacities, horsepower and torque ratings on Stearns products. Write Stearns Magnetic, Inc., 646 South 28th Street, Milwaukee, Wisconsin.

5-11 pH Control in Textiles. Booklet explains pH control in bleaching, dyeing and conditioning of fibers and fabrics. Simplified diagrams and sketches describe typical pH installations. Write Beckman Instruments, Inc., South Pasadena 1, California.

5-12 Electronic Temperature Control. Bulletin describes Fielden controls applicable in water heaters, baths of all kinds, ovens, kilns and dryers. Principle is the change of resistance of a wire-wound sensing element with temperature changes. Write 2920 North Fourth Street, Philadelphia 33, Pa.

5-13 Stainless Steel Textile Accessories and Systems. Color booklet by Sims Metal Works pictures and describes following available products: Rolls, vessels, kettles, vats, coils, size boxes, dry cans, linings, cylinders, machinery, air systems, materials handling. Write Sims Metal Works, West Point, Ga.

5-14 New Motor Control. 8-page promotional folder gives complete description of the new Arrow-Hart Type "LM" Loom Switch, said to be the first manual, across-the-line starter designed specifically for textiles. Write Industrial Control Division, Arrow-Hart and Hegeman Electric Co., 103 Hawthorne Street, Hartford 6, Conn.

Handy Return Card ▶

- **List Booklets You Want By Number**
- **Request More Information On New Equipment Items**
- **Inquire Further About Advertisements**

TEAR OUT AND MAIL TODAY! NO POSTAGE NECESSARY.

Please be sure to fill in your Firm's Name and your position on the Coupon. This service cannot be extended to you unless this information is furnished.

MAY, 1954

Please send, without obligation, additional information on New Equipment and booklets described (give Key numbers) .....

.....

.....

Please send more information on advertisements (give Page numbers)

.....

.....

Name ..... Position .....

Company Name .....

Address .....

City ..... State .....

HELPFUL BOOKLETS FREE!

GENERAL, ECONOMICAL MANAGEMENT . . .

1. **HOW FACTORING CAN INCREASE PROFITS**—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

7. **RAYON TELLS ITS STORY TO THE PUBLIC**—Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, 350 5th Ave., New York 1, N. Y.

17. **A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK**—8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management.—AMERICAN ASSOCIATED CONSULTANTS, INC., 200 Park Ave., New York, N. Y.

19. **INDUSTRIAL BUILDING**—A 32-page booklet entitled "U S S 12, U S S 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 Stainless Steel Sheets in the construction of industrial and semi-industrial buildings. U. S. STEEL CO., 525 William Penn Pl. Pittsburgh 30, Pa.

22. **THE WONALANCET WAY**—Is the title of a editorial booklet published five times a year and deal with current problems which appear worthwhile at the time they are written.—WONALANCET COMPANY, 138 Main St., Nashua, N. H.

PLANT & PLANT MAINTENANCE . . .

102. **"TANK TALK"**—Sixteen-page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. **HUMIDIFICATION, EVAPORATIVE COOLING**—Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment.—AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

107. **FINNELL SCRUBBERS**—Illustrated leaflet describing and giving specifications for the Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

108. **MAPLE FLOORING**—Booklet describing finishing of Northern Hard Maple Flooring—list of M.F.M.A.-approved heavy-duty floor finishes.—MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacker Dr., Chicago 1, Ill.

113. **COTTON MILL EQUIPMENT**—This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Corrections, Lighting, Circuit Protection, etc.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

117. **CLEANING SYSTEMS** — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system.—PARKE-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

127. **SOLENOID VALVES**—Bulletin "V" lists sizes from 1/2 inch to 2 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations.—THE JOHNSON CORP., Three Rivers, Mich.

129. **AIR CONDITIONING AND HUMIDIFICATION**—Catalog section 101 lists and briefly describes each item of the complete Robinson line of equipment for textile mill air conditioning and humidity control. —THE ROBINSON COMPANY, Winston-Salem, N. C.

131. **"AIR PROCESSING."**—Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. —J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

135. **COLOR CONDITIONING**—Booklet illustrated in color describes how DuPont color conditioning pats color to work for you. Many ideas on safety brought out which color can aid.—E. I. du Pont de Nemours & CO., INC., Finishes Div., Wilmington 98, Delaware.

138. **METAL CONVEYOR BELTS**—Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new flat wire belt design and application, along with their woven wire constructions and positive drive chain edge belts.—ASHWORTH BROS. INC., Metal Products Div., Fall River, Mass.

146. **FUNCTIONAL GLASS BLOCK DATA**—Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. —PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. **RINCO HUMIDIFIERS AND COOLING SYSTEMS**—Bulletin describes new steamers with construction lessening air consumption in humidifier systems, evaporative cooling systems.—ALDRICH MACHINE WORKS, Greenwood, S. C.

151. **INDUSTRIAL BRUSHES**—Illustrated booklet of industrial brushes featuring textile usage on sheers, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS BOND, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. **LAMINATED TEXTILE PLASTICS.**—Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry.—SYNTHANE CORPORATION, Textile Division, Oaks, Penna.

154. **AIR CONDITIONING FOR THE TEXTILE INDUSTRY.**—Booklet shows advantages of air conditioned mills in better products and more efficient workers, and gives values of White & Co. air conditioning in particular.—WHITE & CO., INC., 1440 S. Tryon St., P. O. Box 513, Charlotte, N. C.

160. **FLOATING COTTON ROVING TRUCK.**—Booklet by Hood Textile Supply shows advantages of roving truck with automatically adjusted bottom. Eliminating reaching over into truck by keeping load level within easy reach of operator.—EXCEL TEXTILE SUPPLY CO., Lee Ave., Lincolnton, N. C.

161. **AUTOMATIC CLEANING EQUIPMENT**—Complete booklet by American MonoRail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit.—AMERICAN MONORAIL CO., 13107 Athens Ave., Cleveland 7, Ohio.

162. **MODERN METHODS OF TEXTILE FLOOR MAINTENANCE**—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.—G. H. TENNANT COMPANY, 2836 N. Second St., Minneapolis 11, Minn.

169. **MACHINE BRUSHES** — Illustrated folder shows many types of machine brushes and describing their particular use for printing, washing, brushing, singeing, and shearing is sent free upon request.—INDUSTRIAL BRUSH COMPANY, INC., Woodside Avenue, Little Falls, New Jersey.

173. **BLOWERS AND EXHAUSTERS** — Bulletin No. 1014-D describes types "B" and "BF" electric blowers and exhausters. Uses and full description of each with detail drawings.—BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

174. **PAINT STRIPPING BOOKLET**—Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion.—OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

176. **STOKERS AND BOILERROOM EQUIPMENT**—For information on boilerroom problems, improvements and apparatus.—McBURNEY STOKER CO., 2110 Peachtree Rd., Atlanta, Georgia.

179. **BETTER WAYS**—Form 2020, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving, shipping, and production operations by all industries including the textile field.—TOLEDO SCALE CO., Box 97, Toledo, Ohio.

181. **AIR FILTRATION**—Bulletin 224 describes and illustrates the Auto-Atmat, which is the automatic dry-type air filter. Principle of operation, performance characteristics, construction and installation fully discussed.—AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

182. **PROGRESSING-CAVITY PUMPS**—A new principle in pumps. Self-priming, positive displacement, uniform flow features discussed.—ROBBINS & MYERS, INC., Pump Div., Springfield, Ohio.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

201. **V-BELT DRIVE CATALOG**—This handy, pocket-sized catalog helps you make quick and easy selections of any Dayton V-Belt Drive from 1 to 1000 HP. Contains many concise, accurate drive tables, diagrams, and other important engineering data.—DAYTON RUBBER CO., Dayton, Ohio.

206. **TREADED LEATHER BELTING** — This 16-page booklet describes Houghton's line of patented, specially treated leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section.—E. F. HOUGHTON & CO., Philadelphia, Pa.

208. **LOOM MOTOR BULLETIN**—The new design of this ball bearing motor is claimed to represent an advance in the design of loom motors fully discussed. —THE LOUIS ALLIS CO., 427 E. Stewart St., Milwaukee, Wisconsin.

207. **TRICO OILER INSTALLATION**—Twelve interesting pages of actual "on the job" photos of Trico oiler applications on nationally recognized machinery and equipment.—TRICO FUSE MFG. CO., 2048 E. 5th St., Milwaukee 12, Wisc.

Postage Will Be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

Handy Return Card

USE THIS OPPORTUNITY TO INFORM YOURSELF OF CURRENTLY AVAILABLE LITERATURE DEALING WITH MACHINERY, EQUIPMENT AND SUPPLIES FOR TEXTILE MILLS, FILL OUT THE ATTACHED CARD TODAY.

BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 502, SEC. 14.9, P. L. & R., ATLANTA, GA.

TEXTILE INDUSTRIES

806 PEACHTREE ST., N. E.

ATLANTA 5, GA.

Starting our
Second Century
of Factoring

JAMES TALCOTT, INC.
FACTORS

• 225 FOURTH AVENUE; NEW YORK 3, NEW YORK •
ORegon 7-3000

HELPFUL BOOKLETS FREE!

212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others. —THE GATES RUBBER COMPANY, 1001 Broadway, Denver 17, Colo.

218. BALL BEARINGS FOR TEXTILE MACHINERY—A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing.—THE FAFNIR BEARING CO., New Britain, Conn.

222. AUTOMATIC PRODUCTION CONTROL—Booklet by Reeves Pulley Company, shows application of many automatic processes and controls to the textile industry. Well illustrated, it contains engineering data quite useful to anyone interested.—REEVES PULLEY COMPANY, Columbus, Indiana.

227. WOOLEN AND WORSTED MILL ELECTRICAL EQUIPMENT—Booklet by Westinghouse follows processes through the mill and shows application and advantages of Westinghouse equipment.—WESTINGHOUSE ELECTRIC CORP., Box 2099, Pittsburgh 30, Pennsylvania.

229. DODGE GENERAL POWER TRANSMISSION MACHINERY—Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive.—DODGE MANUFACTURING CORP., Mishawaka, Indiana.

235. JOHNSON LEDALOYL BEARING BRONZE—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pa.

237. SPECIAL TEXTILE MOTORS — Bulletin 51B8055A describes special features of "Quick-Clean" motors, including discussion on free air flow, prelubricated bearings, rigid cast iron frame and double insulation.—ALLIS-CHALMERS MFG. CO., Milwaukee, Wis.

237. MOTOR CONTROL—Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed.—CUTLER-HAMMER, INC., Milwaukee, Wisc.

238. TEXTILE LEATHERS CATALOG—Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated.—J. E. RHOADS & SONS, 35 North Sixth St., Philadelphia, Pa.

239. LICKER-IN AND DOFFER BELTS — Brochure and full information on Licker-in and Doffer belts.—TON-TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

241. STANDARD OILITE BRONZE BEARING CATALOG—Lists more than 708 "Standard" Bearings, Cores, Bars and Plates carried in stock by hundreds of Oilite dealers and depots throughout the United States and Canada.—AMPLEX DIVISION, CHRYSLER CORPORATION, P. O. Box 2718, Detroit 13, Michigan.

252. HOW TO STOP "LUBRICHAOS" FROM CUTTING PROFITS—Well-illustrated, factual booklet gives advantages and working principles of Alemite's "Coloroute" plan of lubrication control. Has step-by-step method of putting plan into operation.—THE ALEMITE DIVISION, STEWART-WARNER CORPORATION, Chicago 14, Illinois.

253. TEXTILE LUBRICATION—"Lubrication" a magazine published by the Texas Co., is available. Shows methods and means of lubricating chain drives in very comprehensive form.—THE TEXAS CO., 135 East 42nd St., New York 17, N. Y.

256. METERED LUBRICATION—Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc.—BIJUR LUBRICATING CORP., Rochelle Park, N. J.

259. SUNOTEX MACHINE OIL—Booklet describing this machine oil as being "custom-made" for the textile industry. Advantages discussed and pictures of uses which includes knitting machinery.—SUN OIL COMPANY, Philadelphia 3, Pa.

262. SMALL PRECISION METAL PARTS—Catalog by Torrington Company describes many special precision metal parts made by its Specialties Division.—THE TORRINGTON COMPANY, SPECIALTIES DIVISION, 500 Field Street, Torrington, Connecticut.

265. SERVICE PROCEDURE FOR BALL BEARINGS—A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism.—NEW DEPARTURE, Division of General Motors Corp., Bristol, Conn.

266. SILICONE LUBRICATION—Bulletin BG2-DC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in re-lubrication requirements described.—DOW-CORNING CORP., Midland, Mich.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices.—THE JOHNSON CORP., Three Rivers, Mich.

303. PROCESS CONTROL EQUIPMENT—Catalog containing brief description of standard and special process control equipment engineered for textile industry. Includes schematic diagrams.—MASON-NEILAN REGULATOR CO., 1190 Adams St., Boston, Mass.

309. ELECTRONIC RECORDER—8-page bulletin covers the TEKTOLOG Electronic Recorder which features simplified design, accuracy to plus or minus 1 per cent of full scale, and self-starting operation from low energies.—FIELDEN INSTRUMENT DIVISION, ROBERTSHAW FULTON CONTROLS CO., 2920 North Fourth St., Philadelphia, Pa.

314. MOISTURE CONTENT CONTROL—Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications.—BARBER-COLMAN CO., Rockford, Ill.

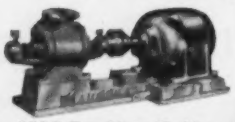
321. RED-RAY BURNERS—Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame.—RED-RAY MFG. CO., 445 W. 46th St., New York, N. Y.

324. STROBOTAC—Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills."—GENERAL RADIO CO., Cambridge 39, Mass.

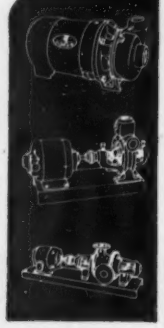
337. COUNTING DEVICES—Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. — TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

Better on "1001" Pumping Duties

Capacities to 150 G.P.M.



Heads to 500 Ft.



APCO Two-Stage Turbine Type Pump for High Pressure Service

Apco—the pump with but one moving part, the impeller — is famous for long-lived, efficient performance on small capacity, high head duties. Available in Single Stage, Two Stage and 4-Stage Tandem for high pressures — and Water Jacketed for high temperature and highly volatile liquids.

Write for Bulletins 111, 111-A, 111-WJ

DISTRIBUTORS IN PRINCIPAL CITIES

AURORA always PUMPS

AURORA PUMP COMPANY

DIVISION OF THE NEW YORK AIR BRAKE COMPANY

90 Loucks Street, Aurora, Illinois

This Marking Crayon Stays on till it's Washed off!

WASHABLE SILK CRAYON No. 295

MADE IN U.S.A.

No. 295 WASHABLE SILK CRAYON was specially developed for silk, rayon and similar fabrics, and has proved highly satisfactory. Its 9 brilliant colors wash out readily.

Send for FREE illustrated marking crayon price book sheet to Dept. TTI-5

BINNEY & SMITH INC.

380 Madison Avenue

New York 17, N. Y.

HELPFUL BOOKLETS FREE!

339. **NEW LUBRICATED PLUG VALVES**—Illustrated booklet by The William Powell Co. features a new line of semi-steel and steel lubricated plug valves. Advantages include quick and positive shut off.—THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

CARDING, SPINNING, WINDING . . .

401. **LUMMUS DUSTLESS, STEEL BLENDING FEEDERS**—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking.—ALDRICH MACHINE WORKS, Greenwood, S. C.

402. **AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS**—24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings.—THE AMERICAN MONORAIL CO., Cleveland, Ohio.

404. **LAPLESS ENDLESS SPINNER** — Bulletin and full information will be supplied on lapless endless spinner and coning belting.—TON-TEX CORPORATION, 16 West 61st St., New York, N. Y.

408. **CARD GRINDING INFORMATION**—Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information.—B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

412. **SERVICE FOLDER**—Folder covers textile metal products including spinning and twisting cylinders, card screens, etc.—JENKINS METAL SHOPS, INC., Gastonia, N. C.

414. **WORSTED SPINNING**—Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages.—SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. **DOUBLER-TWISTER FOR LARGE PACKAGES**—Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed.—FLETCHER WORKS, INC., Philadelphia, Pa.

416. **THE BRIEF SAGA OF THE RING TRAVELER**—An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered.—NATIONAL RING TRAVELER CO., Pawtucket, R. I.

418. **PACIFIC CONVERTER**—Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend.—WARNER & SWASEY CO., Cleveland, Ohio.

419. **TEXTILE APRONS**—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Ga.

420. **AUTOMATIC FILLING WINDING** — Eight page, two color booklet describing the operation and mechanism of the Hacoba winder.—ATKINSON, HASERICK & CO., 211 Congress St., Boston, Mass.

421. **CARD ROLL COVERS**—Brochure describing the Davis Seamless Roll Covers. Lists advantages, specifications and offers free trial.—THE TEXTILE LABORATORIES, P. O. Box 1003, Gastonia, N. C.

425. **HANDY REFERENCE TABLES** — Folder showing spinning traveler speeds, sizes of ring flanges, etc.—VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

426. **UNIRAIL UPTWISTER**—Bulletin describes Universal Winding's headless package or bobbin take-up Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed. — UNIVERSAL WINDING COMPANY, P. O. Box 1005, Providence, R. I.

430. **DIXON DATA** — Dixon house organ entitled "Dixon Data," which is available in a new form every other month. These house organs contain information on spinning problems as they relate to saddles and component parts.—DIXON LUBRICATING SADDLE CO., Bristol, R. I.

432. **PRECISION TEXTILE WINDING**—Bulletin on Kidde Tensions and Density Control for winding rubber cones.—WALTER KIDDE & CO., INC., Belleville, N. J.

435. **DOUBLE DECK TWISTERS**—Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up spool packages) and Acme (up to 16 oz. packages) models for high speed twisting of silk, rayon, nylon, etc., to finest deniers.—U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

436. **MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER**—Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTERS, INC., Providence, R. I.

438. **HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING**—Literature shows high-speed Face Drive Twister for accurately building tapered or straight-end headless packages which go direct to quilling or warping without redrawing.—U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

445. **ROLLER BEARING SPINDLES**—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described.—THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

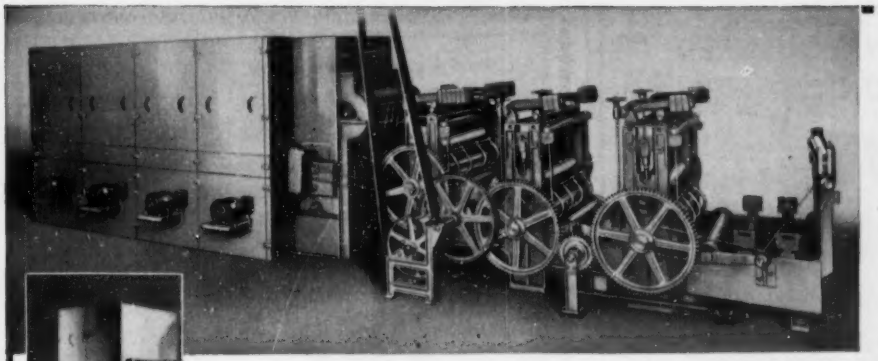
447. **CONE WINDER**—Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply.—FOSTER MACHINE COMPANY, Westfield, Mass.

451. **EVENNESS TESTER**—Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning.—USTER CORPORATION, Charlotte, N. C.

455. **PIN DRAFTS**—Catalog describing the use and features of the machine, what it can do to cut costs in the processing of natural and synthetic yarns, along with specifications and installation data.—WARNER & SWASEY CO., 5701 Carnegie Ave., Cleveland, Ohio.

458. **CONICAL RINGS AND FLYERS**—Special data available on the Herr conical rings and flyers.—HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. **TENSION CONTROLS**—Folder describing tension compensation and automatic tension controls. Three models—Standard, Warp, and Double Disc fully described with specific application.—WALTER KIDDE & CO., INC., Belleville 9, N. J.



Conveniently located inspection doors at doffer end.

SARGENT'S

Flexible • Modern • Efficient

BACKWASHER and BACKWASH DRYER

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

☆ **Designed to Meet Varying Production Requirements**

BACKWASHER—Available with one to five bowls. 44" wide bowls give increased liquor capacity. SARGENT'S rearrangement of top squeeze roll levers allows easy accessibility for operator; permits more than double usual number of ends to run through machine. Convenient working space provided by development of pneumatic loading for squeeze rolls, eliminates weights, rods, springs and adjusting wheels.

BACKWASH DRYER—Available with 29" or 44" aprons. Wire cloth or perforated plate aprons assure softer feel, better color, greater fibre strength. Warm air circulated by motor driven pressure-type fans passes alternately through extended surface heating coils and fibres. From 14 to 60 ends dried at one time. Available in production capacity of 100 to 600 pounds per hour, with 3, 4, 5 or 7 circulating fans.

Write for Complete Details

SINCE 1852

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.

REPRESENTATIVES

P. E. WASSON, 519 Murdock Rd., Philadelphia 19, Pa.
A. L. MERRIFIELD, 215 Grove Ave., Cincinnati 15, Ohio
W. S. ANDERSON, Carolina Specialty Co., Charlotte, N. C.
HUGH WILLIAMS & CO., 47 Colborne St., Toronto 1, Canada

HELPFUL BOOKLETS FREE!

461. PRECISE WIND MACHINE—Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns.—FOSTER MACHINE COMPANY, Westfield, Mass.

462.—TEXTILE MACHINERY PARTS CATALOG—A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lag Straps, etc.—DAYTON RUBBER CO., Dayton, Ohio.

467. CARD CLOTHING—8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages.—BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING—Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams.—TURBO MACHINE COMPANY, Lansdale, Pa.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES—Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins.—IDEAL MACHINE SHOPS, Bessemer City, North Carolina.

473. CUSTOM MADE THREAD GUIDES—Illustrated booklet describing uses and physical properties of the "AISiMag" line of Thread Guides. Advantages fully discussed with picture and specifications of each type.—AMERICAN LAVA CORP., Chattanooga 5, Tenn.

474. BALL BEARING COMB BOXES—Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Georgia.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES—Color booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies. Roll covering for Cotton, Silk and Synthetic and Woolen and Worsted systems. An excellent guide book.—ARMSTRONG CORK CO., Industrial Div., Lancaster, Pa.

476. TEXTILE FIBER OPENER FOR COTTON SYNTHETICS, WOOL—New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SIRL Opener. Complete operating procedure is described.—CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

476. TIPS ON CARDING PROCEDURE—Monthly bulletin by Ashworth Brothers includes many useful tips and advice on carding operation, maintenance and care and is available to anyone interested. Bulletin is a reprint of section appearing on green paper in this issue.—ASHWORTH BROTHERS, Fall River, Mass.

477. METALLIC CARD CLOTHING—Color booklet by Platt Brothers describes their Patent Metallic Card Clothing. Well illustrated, it gives applications, types of clothing for all fibers, etc.—TEXTILE INDUSTRIES, 806 Peachtree Street, Atlanta, Georgia.

WEAVING, SLASHING . . .

501. LOOMS—An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms." Information on all types fully discussed.—CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502. COUNTING AND MEASURING DEVICES—Condensed textile catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery.—VEEDER-ROOT, INC., Hartford, Conn.

503. WEAVER'S KNOTTER—A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter.—A. B. CARTER, INC., Gastonia, N. C.

504. LOOM SUPPLIES—Literature describing complete line of straps, strapping, pickers, dobby cords, sticks, binders, bumpers, brake lining and allied products.—E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

505. SLASHING HINTS—A 20-page booklet offering helpful hints on warp sizing. Subjects: Size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods, weighing for the mix, tips on cooking equipment, storage in kettles, etc.—SEYDEL-WOOLLEY & CO., 748 Rice St., N.W., Atlanta, Ga.

507. VARIABLE SPEED SLASHER DRIVE—Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher.—REEVES PULLEY CO., Columbus, Ind.

508. LOOM PRODUCTION CHARTS—Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds.—RALPH B. LOPER CO., Greenville, S. C.

509. MULTI-MOTOR SLASHER DRIVES—Booklet designed to bring the descriptive information on multi-motor slasher drives up to date, and emphasize the improvement in the drive through the use of Rototrol for the control of winding tension.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

511. ALUMINUM BEAMS—Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

517. LOADING SYSTEM—Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices.—THE FOXBORO COMPANY, Foxboro, Mass.

521. STEEL WARP BEAMS—20-page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broadloom and narrow fabrics. Also Textile Machinery Specialties.—MILTON MACHINE WORKS, INC., Milton, Pa.

524. JOHNSON WARP SIZES—12-page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis.—CHARLES B. JOHNSON MACHINE WORKS, Piercy & Holsman Sts., Paterson, N. J.

530. ROTARY UNIONS—New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count."—PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

538. HOMOGENIZER IMPROVES SLASHING—Pamphlet by Manton-Gaulin Manufacturing Company shows how mechanical conversion of size by the Gaulin method produces better size. Gives installation pictures and specifications.—MANTON-GAULIN MANUFACTURING COMPANY, INC., Everett, Mass.

WHEN YOU NEED ELECTRONIC TUBES . . .

WE GOT 'EM!

If an electronic tube goes bad in your mill it means down machinery and lost money. When this happens, call SPECIALTY. We can supply the tube you need when you need it. . . and we mean *fast!*

DISTRIBUTORS OF:

Sylvania
National Electronics
Raytheon
Eimac
RCA
Hytron
Amperex
Tung-Sol
General Electric

SPECIALTY DISTRIBUTING CO.
INCORPORATED
425 PEACHTREE ST., N.E., ATLANTA, GA.
PHONE ELGIN 5815 TWX AT281

Over a period of many months, numbers of Mill Superintendents, Overseers and Master Mechanics have concluded that the complete answer to all their cleaning problems is

MOMAR

M-4

MAGIC CLEANSER

* * * *

ELIMINATES USING MINERAL SPIRITS

A FREE DEMONSTRATION OR SAMPLE IS YOURS FOR ASKING

WRITE NOW

MOMAR INCORPORATED
MANUFACTURING CHEMISTS
451 WHITEHALL ST. ATLANTA, GA.

HELPFUL BOOKLETS FREE!

537. WEST POINT'S HOT AIR SLASHER—Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specifications included.—WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER—Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown.—PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

539. AUTOMATIC REGAIN CONTROL OF RAYON AND SYNTHETIC FIBRE SLASHING—Technical booklet by Minneapolis-Honeywell gives data on their electronic, multi-range "Moist-O-Graph" system for controlled regain. Write for No. B54-66.—MINNEAPOLIS-HONEYWELL REGULATOR CO., Station 64, Philadelphia 44, Pa.

540. SLASHING EQUIPMENT — Brochure by Tower Iron Works shows different types of slashing equipment, enumerating characteristics and advantages of each.—TOWER IRON WORKS, 50 Borden St., Providence 3, R. I.

DYEING, FINISHING CLOTH ROOM . . .

602. CONTROLLED VAT DYEING—Calco technical booklet No. 828 discusses stabilization of vat dyes at elevated temperatures, instrumental and analytical measurements, Leuco Potentials. — AMERICAN CHEMICAL CO., Calco Cyanamid Division, Bound Brook, New Jersey.

606. HYDRAULIC POWER UNITS—Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—R. F. PERKINS & SON, INC., Holyoke, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY—Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY—Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs.—FLETCHER WORKS, INC., Philadelphia, Pa.

616. FINISHING DRIVES—32-page booklet covers complete drives Westinghouse has engineered for the textile finishing industry. Describes all types of finishing ranges and discusses advantages of Westinghouse drives for these installations. "Packaged" drives for batch processes covered.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING—Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS—Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job.—INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

623. SELVAGE GUIDER—The Marshall and Williams positive overfeed and selvage guider is described in a brochure as being developed to meet the most modern requirements of the textile finishing industry. Full description, pictures and advantages discussed.—MARSHALL & WILLIAMS CORPORATION, 46 Baker Street, Providence 5, R. I.

627. SINGLE APRON STOCK DRYERS—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

631. ELIMINATE DYE-BATH SHOCK—Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods. Write for data sheet, 220-60.—FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS—Series 1-C illustrated bulletin detailing right and wrong application and use of washers.—E. H. JACOBS NORTHERN DIV., Danielson, Conn.

637. BALL BEARING TURN TABLE—Leaflet describing this 48" diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth opening machine. Advantages discussed.—BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

638. DYEING AND FINISHING MACHINES—Booklet by James Hunter Machine Company shows pictures, applications, and advantages of following: "Vapo Jet" Dryer; "Hunter Dye Beck"; "Flexreel" Rope Washer; Continuous Cloth Washer; Model "S" Dye Kettles; Compartment Washer; Fulling Mill; Top Dyeing Machine; "Uniflow" High-speed Tenter Dryer; Cloth Carbonizer.—JAMES HUNTER MACHINE CO., North Adams, Mass.

639. ROTARY DYEING MACHINE—Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc.—SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

653. GUIDERS AND TENSION DEVICES—Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate straight line guiding of open width goods. Bulletin 8G-PG.—MOUNT HOPE MACHINERY CO., 15 Fifth St., Taunton, Mass.

654. ION EXCHANGERS—Bulletin details a general history of ion exchange, gives data on proper selection of ion exchangers and lists general applications in the treatment of water.—PERMUTIT COMPANY, 330 West 42nd Street, New York 36, N. Y.

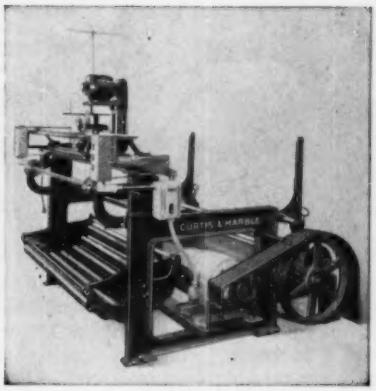
655. PAPER TUBES FOR YARN AND CLOTH—Complete data to help you solve your paper tube problems. Overnight delivery of yarn and cloth paper tubes and boards. Shows how warehousing of these items can be avoided.—TEXTILE PAPER PRODUCTS, Cedartown, Ga.

DYESTUFFS, CHEMICALS, SOAPS . . .

700. COTTON FINISHING OILS—New booklet by Twitchell devoted to finishing Sanforized Fabrics contains such specific data as re-wetting speed, imparted softness, resistance to yellowing, and "balance" of these properties.—EMERY INDUSTRIES, INC., Dept. 5, Carew Tower, Cincinnati 2, Ohio.

701. MAGNESIUM APPLICATIONS—Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry.—DOW CHEMICAL CO., Midland, Mich.

No. 55 Railway Sewing and Rolling Machine



with either Singer Head for common chain stitch seam or Merrow Head for flat butted seam.

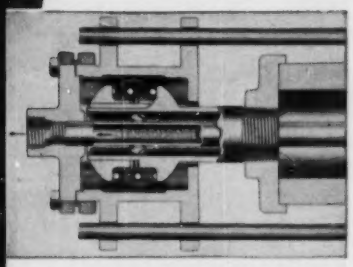
The cloth from the loom bolt is placed in the cradle in front, and the ends are stitched together as fast as the goods are unrolled from the loom bolt, and as many pieces as desired are rolled up in a large roll ready for the next machine.

This newer model has several improvements over the older style No. 25 and No. 55 machines. The rolling-up rolls run in ball bearings, and are connected by roller chain. The front roll is driven from a brake motor by V belts. A new pattern main frame permits putting the motor inside, out of the way.

Write for our fully illustrated catalog of Cotton Machinery No.7-51.

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS.

THE NEW TYPE L-J Johnson Joint



Type L-J Johnson Joint, showing body lugs and support rods. Steam inlet doesn't show—is at 90° from these lugs.

With lugs cast right on the body to accommodate supporting rods, the Type L-J Johnson Joint has proved to be the neatest answer for a wide range of operating conditions. It removes the weight of body and connections from rotating assembly. And now it has been redesigned to reduce size, weight and price, and increase life of seal rings. As always, the new Type L-J is completely packless, self-lubricating and self-adjusting, with flexibility built right in to combat misalignment.

Learn how the new Type L-J can pay its own way.
Write for literature.

The Johnson Corporation
815 WOOD ST., THREE RIVERS, MICH.

HELPFUL BOOKLETS FREE!

705. THEORETICAL AND APPLIED SILK-SOAKING—Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

706. RHONITE RESINS—Booklet describes the Rhonite Resins as being developed to impart hand to fabrics ranging from stiffness through full resiliency to silky suppleness, depending on the demand of the season. Full information and uses given.—ROHM & HAAS COMPANY, Washington Square, Philadelphia, Pa.

710. DEPUMA—An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing.—AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

713. LIOVATINE ED—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, 61 Van Dam St., New York City.

714. NEW SODA ASH BULLETIN—64-page edition contains both new material and revisions of previously used data covering the subject. Ask for Bulletin No. 5.—SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

715. AQUAROL AND ARKANSAS PRODUCTS—Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

721. SUSFAX 1288—Product data sheet explains this useful wetting and rewetting agent. Described as being water soluble at all temperatures and is a highly concentrated, economical surface active agent.—H. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

727. COLOR PRINCIPLES—Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools.—SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

728. UNIQUE YARN AND DYEING SERVICE—Booklet by Franklin Process tells why Franklin Process Yarn Dyeing Service is one of the top package yarn dyeing services. Also includes table showing relative fastness of dyestuffs used on various fibers.—FRANKLIN PROCESS CO., 564 Eddy St., Providence, R. I.

729. STATIC AND STATIC CONTROL—Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them.—DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

733. WOOL OILS—Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil.—PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

734. I-2 BLEACHING WITH PEROXYGEN CHEMICALS—Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept., Bulletin No. 52, now available.—BUFFALO ELECTRO-CHEMICAL CO., INC., Station B, Buffalo 7, New York.

745. RAPIDASE FOR DESIZING—Bulletin explaining in detail the properties and characteristics of Rapidase.—WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

749. WATER SOLUBLE GUMS — Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject. —JACQUES WOLF & CO., Passaic, N. J.

753. TRITON X-100—Booklet available describing this highly concentrated detergent and wetting agent. Main uses fully discussed and chemical properties brought out.—ROHM & HAAS COMPANY, Philadelphia 5, Pa.

757. THE CHEMISTRY OF CYNANURIC CHLORIDE—Very comprehensive technical text by American Cyanamid Co. Gives Physical Properties, Reaction Chart, Chemical Properties, Potential Applications, Toxicity, Table of Alcohol Reactions, Table of Amine and Related Compound Reactions.—AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

763. TEXTILE CHEMICALS—Booklet, well executed and in color, tells of American Viscose Company's "Avisco" textile chemicals for lubricating, softening, static control, sizing and finishing.—AMERICAN VISCOSE CORPORATION, Textile Research Department, Marcus Hook, Pa.

768. DU PONT PEROXIDE BLEACHING SYSTEMS—New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included.—E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

768. TEXTILE CHEMICALS—Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition.—AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

769. SURFACE TENSION DEPRESSANT—The booklet, "Mercerizing and Alkamerco—The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing.—HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

773. TECHNICAL CHEMICAL DATA SHEETS—Complete set for dyeing, printing and finishing operation, showing major operations, performance and advantages.—ONYX OIL & CHEMICAL CO., 190 Warren St., Jersey City 2, N. J.

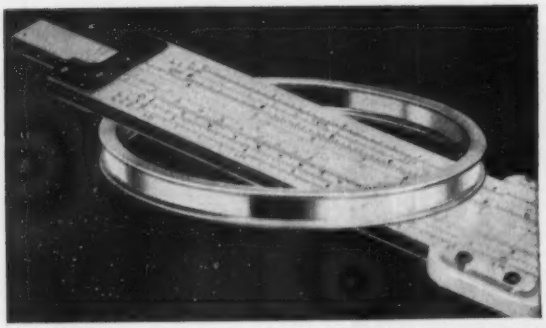
774. ROYCE TEXTILE CHEMICALS—This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

801. THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

806. REINER WARPER—Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog.—ROBERT REINER, INC., Wechawken, N. J.

818. FORGED HEAD ALUMINUM BEAMS—Bulletin 49-A shows new beam capable of holding high yardage of nylon and rubber warps, with specifications. Also describes permanent mold aluminum tricot and section beams.—MILTON MACHINE WORKS, INC., Milton, Pa.



RINGS are a MODERNIZATION

-immediately available

-immediately valuable

Gearing for defense contracts will doubtless require changes in your ring set-up. DIAMOND FINISH standard and Eadie speed styles offer you the most complete and modern line of rings, assuring maximum production for any type of yarn. Call on us for immediate service.

WHITINSVILLE (MASS.) SPINNING RING CO.

DIAMOND FINISH

Makers of Spinning and Twister Rings since 1873

Southern Representative: W. K. SHIRLEY, 25 Oak St., Belmont, N. C.

"What You Want When You Want It"

WONALANCET

PERUVIAN Pima Cotton

WONALANCET COMPANY

128 Burke Street, Nashua, New Hampshire
And 153 Peachtree St., Atlanta, Georgia

HELPFUL BOOKLETS FREE!

823. VARIABLE STRIPER—Booklet available describing Supreme's complete line of Automatic Variable Stripers and Pattern Placer Machines.—SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., Brooklyn 6, N. Y.

828. THE KIDDE KNITTER—Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it.—KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

924. BUTT-TACKING SEWING MACHINE—Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking.—THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

925. SEWING MACHINES—The Lock-Stitch bulletin No. 258 describes and illustrates new, high speed, single needle Union Special Lock-Stitch machine for general purpose industrial sewing operations.—UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Illinois.

MATERIALS HANDLING . . .

1003. CASTERS AND WHEELS—196 pages, describing castors and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach 4, Calif.

1004. PITTSBURGH COLLAPSIBLE CARGO-TAINERS—Stacked they lock in place and permit visible inventory; collapsed they nest in small area. Base permits entry by all types of lift trucks. Write for brochure MH-15.—PITTSBURGH STEEL PRODUCTS COMPANY, Pittsburgh 30, Pa.

1006. LANE CANVAS BASKETS—16-page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT—56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem.—THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. CASTERS AND WHEELS—An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters.—THE COLSON CORP., Elyria, Ohio.

1010. CONVEYOR KEY BOOK—A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN CO., 1115 Franklin St., Louisville, Ky.

1011. TEXTILE TRUCKS—Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description.—EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1013. "A STORY OF TRACTOR TOOLS AND THEIR USE"—Comprehensive illustrated guide effectively present in cartoon-style the many principal uses for this type of equipment.—HYSTER CO., 2903 N.E., Clackamas St., Portland 8, Ore.

1030. CDF RECEPTACLES—This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item.—CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

1032. ELECTRIC CHAIN HOISTS—Bulletin 852 describing Robbins & Myers Type "JC" electric chain hoists. Capacities 500, 1000 and 2000 pounds—ROBBINS & MYERS, INC., Hoist & Crane Div., Springfield, Ohio.

MISCELLANEOUS . . .

1102. BALING PRESSES—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS—Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1108. FABRICATION OF U. S. STAINLESS STEELS—136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosive-resistance tables for chemicals.—CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

1111. BRUSHES—A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. THE RANDOM WEB PROCESS—Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams.—CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

1113. MACHINE KNIVES—Catalog and price sheets describing this company's line of knives for use on textile machinery.—TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. TEXTILE WRAPPING MACHINES—Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made.—HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1122. BALING PRESSES—Bulletins available describing this company's line of motor-driven and hydraulic baling presses for finished goods, textile fibers, wool, and waste of all kinds.—LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee, Wis.

Adjustable Gauge Twister

(Continued from page 89)

plete, and that includes ring rail, spindle rail, roller beam, thread board, and creel.

The frame's versatility is made possible by the use of high strength aluminum alloy extrusions made with T-slots in which the working parts of the twister are mounted. Maximum rail straightness and stiffness result from avoiding all drilling and machine operations that "break the skin" of the metal and tend to introduce warpage. Exactness in spindle plumbing and greatly simplified frame erection also make unnecessary any preliminary shop erection and dowelling of frame parts.

Rigid frame support is derived from two separate horizontal brackets clamped on two vertical steel members.

Gauge is adjustable from a minimum of 3 inches to any reasonable maximum. Traverse is adjustable from 8 to 12 inches maximum.

Use of an offset ringholder with ring rail positioned inboard permits use of full-length and full-width separators.

Feet may be individually adjusted to permit leveling on an uneven floor. Other construction details include possibilities of at least a 4" saving in frame width when an old frame is converted.

Medley Mfg. Co., 400 32nd Street, Columbus, Ga.

For additional data, request item E-109, using Handy Return Card on page 168.

NEW Equipment AND MATERIALS

Other items are described on pages 85, 87, and 89

Textile Machine Works to Build Full-Fashioned Outerwear Knitters

Textile Machine Works, manufacturer of the "Reading" full-fashioned knitting machine for producing ladies' stockings, has announced its entry into the full-fashioned outerwear knitting machine field. Present plans are to convert various types of "Reading" machines to the manufacture of knitted outerwear garments.

Gauges ranging from 18 to 27 will be supplied to provide the industry with complete coverage necessary in the design of full-fashioned apparel. Machine specifications, prices, and delivery will be forwarded upon request.

Textile Machine Works, Reading, Pa.

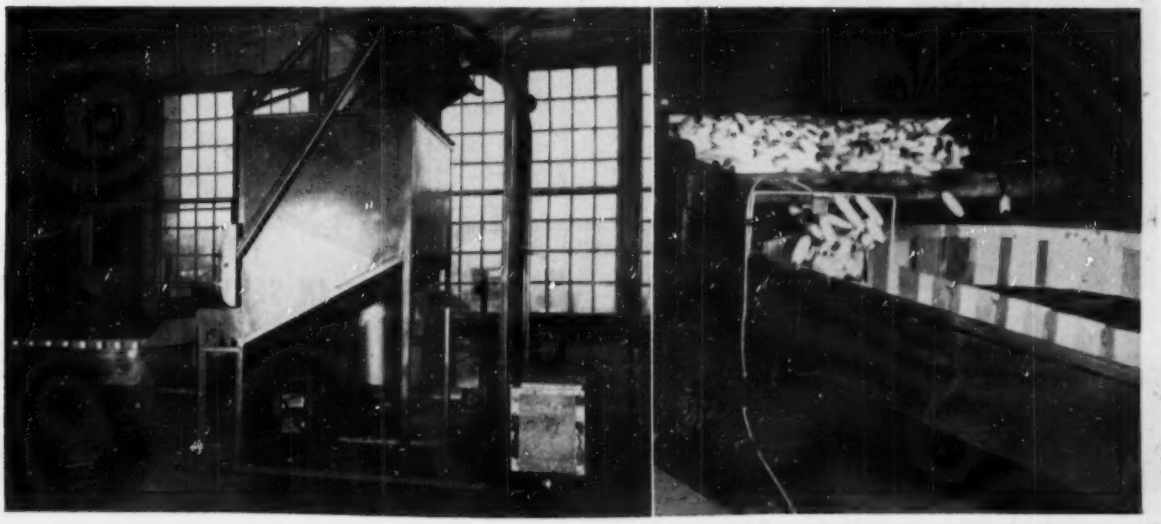
For additional data, request item E-115, using Handy Return Card on page 168.

Yarn Feeding Device Eliminates Need for Yarn Handler at Spoolers

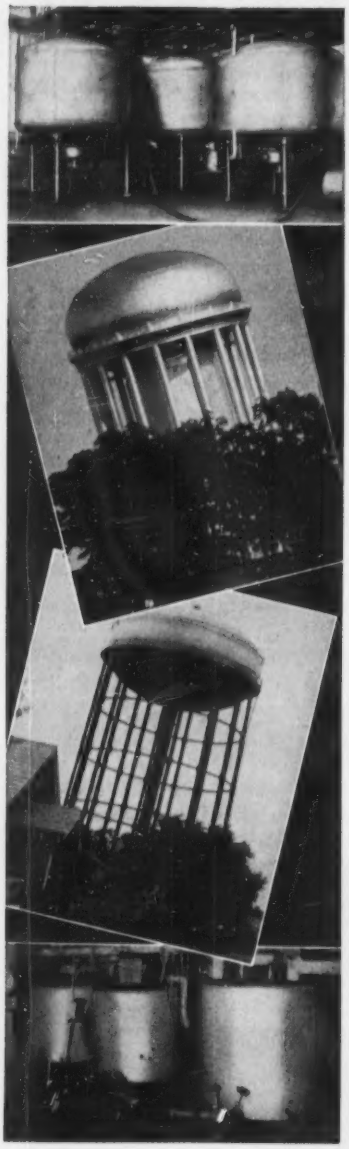
Now available for use in conjunction with Whitin Products' yarn conveying equipment for Barber-Colman spoolers (described in TI for September, 1950, page 199) is a feeding device which eliminates entirely the need for a yarn handler at the spooling operation—spinning frame doffers may be the last to handle the yarn.

The feeder is located at the base of the conveyor (see left photo)

Two views of feeding device for Whitin Products' yarn conveying equipment for Barber-Colman spoolers.



98 YEARS OF EXPERIENCE IN BUILDING TANKS



KETTLES
DYE-VATS
KIERS
JIB-BOXES

● Cole builds vessels to your specifications — dye-vats, kiers, starch-kettles, acid tanks, jib boxes, or other processing vessels for the finishing and dyeing industry . . . in stainless steel, nickel-clad steel, or of standard steel lined with monel metal.

And, for almost a century Cole elevated tanks have provided a dependable water supply for mills and communities.

Our long experience in the design and fabrication of tanks and vessels for the textile industry may be of help to you.

●

Write for latest Cole catalog—"Tank Talk."

Established 1854

R.D. COLE MFG. CO.
NEWNAN, GEORGIA

ELEVATED TANKS • VESSELS • CYLINDERS
TOWERS • BINS • STANDPIPES

Now! Precision Matched Sets

CORDUROY CUTTING KNIVES

- Supplied in matched sets of 330 knives.
- Precision ground double-bevel cutting edge.
- Finest alloy steel, correctly tempered for long life.
- Accurate to ± .001 tolerance.

ALSO AVAILABLE UNGROUND.

COLEMAN COMPANY, INC.
P. O. BOX 1351, GREENVILLE, S. C.

modern custom cut

FERGUSON GEARS

FOR OVER 25 YEARS
A WATCHWORD IN SERVICE AND QUALITY

Write For Stock Sheet on Textile Gears

FERGUSON GEAR COMPANY
GASTONIA, NORTH CAROLINA
Phone 4-2626

which consists of an articulated metal trough traveling in a stationary trough around the spooler. A Micro-Switch mounted over the trough controls the operation of the feeder which is of the reciprocating type and picks up from 6 to 8 bobbins per stroke, dropping them into the conveyor trough that is moving along at a speed of 2 fpm. The gauge or feeler can be adjusted to provide any depth of yarn in the trough from one layer deep to 10 inches deep.

The bin is loaded by a pneumatic device shown in the right photo (made from the opposite side of the bin). The yarn bucket is shown in dumping position. Doffers dump yarn into the bucket which in turn automatically dumps it into the bin.

As many as four counts can be handled this way automatically, dividing the bin and also the conveyor with a separate feeder for each count.

Whitin Products, Camden, S. C.

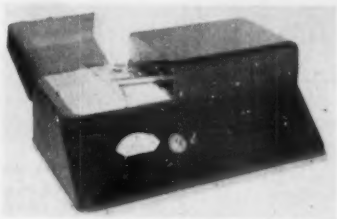
For additional data, request item E-101, using Handy Return Card on page 168.

Instrument Evaluates the Hand of Fabrics

The Handle-O-Meter, an instrument developed by personnel of Johnson & Johnson for evaluating the "hand" or "handle" of fabrics, can now be obtained by others interested in testing this fabric property.

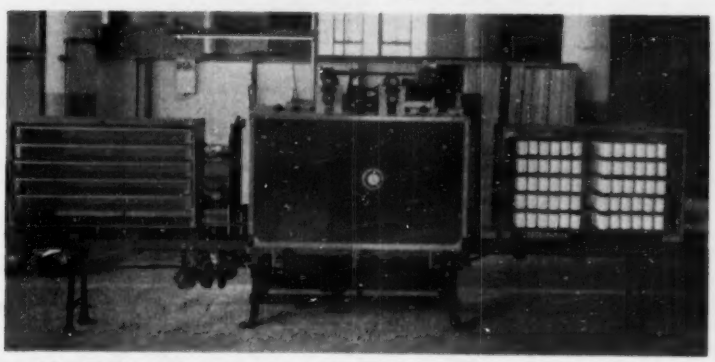
Good correlation between instruments and operators is secured with the instrument, and results agree well with ratings of skilled personnel who are accustomed to making this test by hand.

An electric strain gauge detects differences which make up the final result, and an electric meter indicates the numerical value of the test. Results are independent of human element. A complete test can be made in only 15 seconds.



Thwing-Albert Instrument Co., Penn St., and Pulaski Ave., Philadelphia 44, Pa.

For additional data, request item E-116, using Handy Return Card on page 168.



The Turbo nylon yarn or fabric setting and processing machine.

Nylon Setting Machine for Yarn or Fabrics

The Turbo yarn or fabric setting and processing machine utilizes alternating cycles of pressure and vacuum so that setting is accomplished in a matter of minutes, depending on the type of goods being processed. It is equipped with a vacuum-steam jet which produces 22" to 27" of vacuum within 45 seconds.

Custom-built containers for fabrics, or yarn in skeins, on spools or cones, move automatically in and out of the cabinet which is manufactured in two sizes—one for steam pressures up to 30 psi and the other for steam pressures up to 45 psi.

High production is assured because of the short processing time required. Fully automatic controls regulate the various cycles, moving the goods into the cabinet, closing the door, turning on and off the steam and vacuum, opening the door, and moving the goods out of the cabinet, and at the same time moving goods to be processed into the cabinet. Operator places nylon yarn or fabric in one container for setting while the other is in the cabinet being processed.

Turbo Machine Co., Lansdale, Pa.

For additional data, request item E-106, using Handy Return Card on page 168.

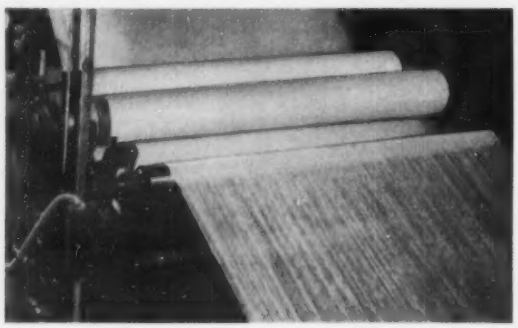
Automatic Slasher Head End

Development of a new automatic slasher head end for use with its Gentle-Air Dryer has been announced by Bachmann Uxbridge Worsted Corp. An outstanding feature of the new unit is its ability to doff a full beam and load an empty one, both the doffing and loading mechanisms being operated hydraulically. One man can complete the full doffing and loading cycle in less than a minute. Another special feature is the automatic self-aligning compressor roll, which can be regulated to any desired pressure.

Sequence of the operation is controlled by three readily accessible levers. Starting with an empty beam in the machine, the operator uses the first lever to bring the compressor up into position, so that the machine is ready to run. When the beam is filled, he uses the second lever to release it by automatically stripping the spindles, whereupon the beam can be dropped onto a dolly or hoisted directly from the spindles by overhead tramrail. Third step is to run an empty beam into position and use the third lever to signal the spindles to affix themselves automatically and to bring the beam up into running position. Next to the three operating levers, a gauge shows the operator when the holes are in line for picking up the empty beam, the loom beam always being positioned by automatic means exactly in the center

Combination Quetsches

MAKE POSSIBLE SIZING OF COMBINATION WARPS

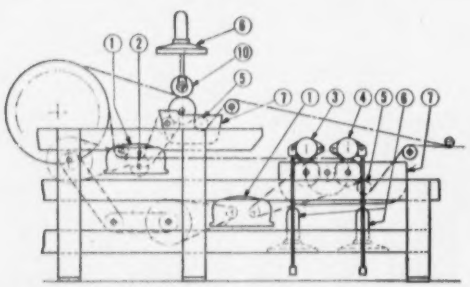


Johnson double quetsch in action.

Leading mills, weaving fabrics that combine two or more natural and synthetic yarns, are installing Johnson Warp Sizers with Combination Quetsches.

They thus are able to size warps that contain mixed yarns in a single operation, saving time and improving the quality of their cloth.

Johnson makes the following quetsches for utmost versatility in sizing different types of yarns simultaneously: single, double, double-double, single-single, and single-double quetsches.



KEY TO DIAGRAM

1. Positive variable speed unit to regulate stretch between quetsch and cylinders.
2. Cut marker.
3. & 4. Four roll double quetsch.
5. Adjustable immersion roll.
6. Air motors for pneumatic loading of quetsch pressures.
7. Large stainless steel direct steam heated solution pan.
10. Two roll single quetsch.

Charles B. Johnson

MACHINE WORKS

22 Piercy Street **Paterson, New Jersey**

REPRESENTATIVES

New England:
J. S. Fallow & Co.
New Bedford, Mass.

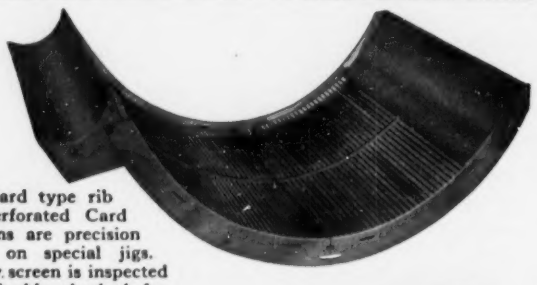
Canada:
J. S. Fallow & Co.
4846 Sherbrooke St., W.
Montreal, Quebec, Canada

MORE PRODUCTION AT LOWER COSTS

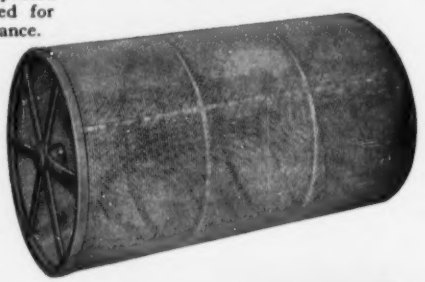
with GASTONIA *TEXTILE*

SHEET METAL PARTS

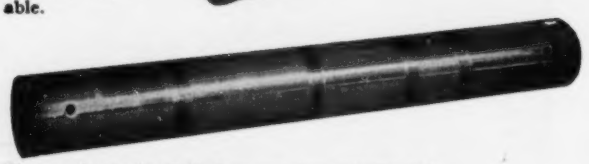
The quality and the profit of your end product starts at the beginning—where preparatory machinery must be geared for efficient, economical volume production. That's our job—a job for specialists with the reputation for top quality products, painstaking workmanship and reliable service.



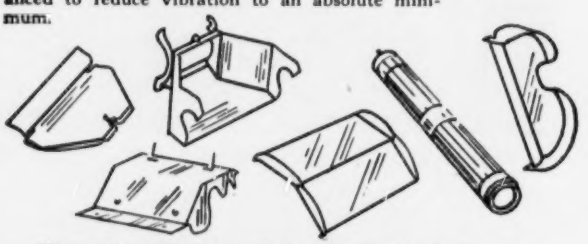
Standard type rib or perforated Card Screens are precision built on special jigs. Every screen is inspected and double checked for accuracy and tolerance.



Picker, Condenser and Waste Machine Screens of maximum strength and durability are constructed of the best materials available.



New and rebuilt Cylinders are dynamically balanced to reduce vibration to an absolute minimum.



Years of practical experience—the finest of raw materials—and precision machinery in the hands of skilled workmen go into every product.

GASTONIA TEXTILE SHEET METAL WORKS, INC.
GASTONIA, NORTH CAROLINA

A SHEET METAL WORKS SERVING TEXTILE MILLS

of the unit.

Mechanism is completely interlocked so that the operator cannot by any chance strip the loaded spindles until the beam is in doff position, nor can he doff the beam until the compressor roll is released.

During the entire life of the machine, need for lubrication has been virtually eliminated by installation of roller bearings throughout the Bachmann Uxbridge automatic slasher. The lease rod bracket is a new type which saves time and effort in positioning the rods.

The slasher is boxed in at the sides so that fresh air is sucked directly under the unit on its way to the dryer. Hence the air acts as a cooling agent for the electric motors located under the front end. Before entering the dryer, the air is cleaned by a screen which filters out all dust, dirt, lint and other matter that may be picked up by the air suction.

The automatic slasher can be made to accommodate any beam width or circumference a customer may require. Careful design enables it to work automatically for its maximum and minimum width, permitting use of narrow sample beams when desired.

Bachmann Uxbridge Worsted Corp., Research Department, Uxbridge, Mass.

For additional data, request item E-110, using Handy Return Card on page 168.

Push Broom Is Versatile and Refillable

An adjustable, lightweight push broom, called a Blade Sweep, is designed to save time in the performance of both ordinary and special sweeping jobs. Two of these lightweight "sweeps" may be held at angles forming a plow for moving the large amounts of light, bulky refuse.

When worn, only the brush strip is replaced. Brush material, or filler, available includes synthetics, wire, and such fibers as bassine and tampico.

The head clamp which holds the brush strip in place is available in both the multi or single position models. The multi-position head allows brush strip to be set in any of four different positions for versatility and performance of special sweeping jobs.

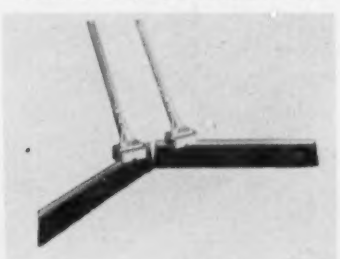
An optional metal scraper fits on the clamp head of the single position model at right angles to the brush strip. This is handy for removing well-packed deposits such as grease or mud. Operator merely turns sweep upside down for scraping.

Brush strips from 18" to 36". Special lengths and type of fill according to order.

The Fuller Brush Co., Industrial Division, Hartford 2, Conn.

For additional data, request item E-401, using Handy Return Card on page 168.

Blade Sweep by Fuller Brush.



NEW Equipment AND MATERIALS

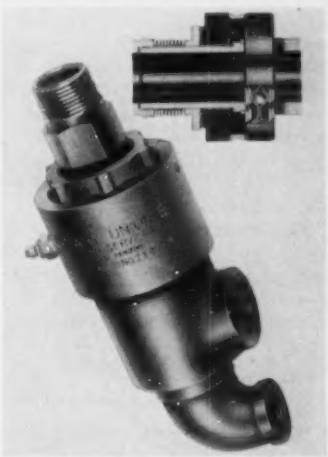
Now "Rotary Unions" Can Be Repaired at the Mill

Field repair is an outstanding feature of the new "Rotary Union," a revolving sealing connection between a stationary supply pipe and a revolving machine cylinder, roll or drum. Low friction ball-bearing and mechanical seal construction reduces wear and power consumption.

This new design will give even better performance than the factory sealed units manufactured previously.

Conversion field repair cartridges are available for the former factory sealed units now in service. Repairs and conversion can be made in a few minutes with ordinary tools. Factory repair and converting service will be maintained to provide service to those who prefer it. The new construction applies to all standard Rotary Unions ¼" through 2" pipe sizes, for use on steam, water, air, gas or oil applications up to 250 P.S.I.

Perfecting Service Co., 332 Atando Ave., Charlotte 6, N. C.



For additional data, request item E-127, using Handy Return Card on page 168.

Versatile Motorized Scray

A recently developed, versatile scray with motor driven feed rolls provides continuous, uniform-tension take-off for the entrance end of processing ranges which feed from rolls of cloth. The device folds the goods in a ribbon candy plait that permits tangle-free feeding with a minimum of tension. Regardless of how fast the range may operate, the scray allows ample time for splicing a new roll without interruption.

With this scray it is easy for one man to load and change rolls. It may be readily moved from one range to another and handles fabrics in a wide variety of weights and widths.

Tower Iron Works, Textile Div., Providence 1, R. I.

For additional data, request item E-105, using Handy Return Card on page 168.

NEW Equipment AND MATERIALS

Long Life Guide Bars for Tricot Warpers

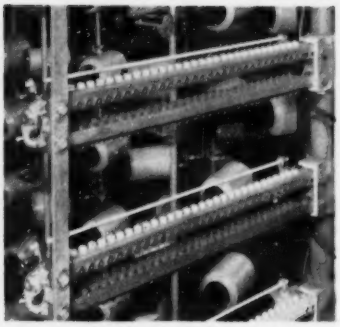
New ceramic guide bars to fit any make of tricot warper are manufactured in AlSiMag 513, a long-wearing material which has a hardness of 9 on Mohs' scale (diamonds are 10).

To reduce tension and provide better yarn control, tney are supplied in satin finish. This finish is maintained indefinitely because of the material's extreme hardness.

The long life of these guide bars without cutting results in damage-free yarn, and substantially lowers maintenance costs. Installation is simple—the bar slips easily into position and is then tightened securely. AlSiMag tricot guide bars can be supplied with ¼" or 5/16" diameter and in lengths up to 24".

American Lava Corp., Chattanooga 5, Tenn.

For additional data, request item E-104, using Handy Return Card on page 168.



2 for 1 Ply Twister-Winder Makes 25-lb Package of Industrial Cord

A newly developed 25-pound, two-for-one ply twister-winder machine, designed and built by Deering Milliken Research Trust, performs twisting at maximum uniformity and precision winding as a single-step composite operation, delivering a 25 to 30 pound, knotless package finished with transfer tail and ready for packing and shipping.

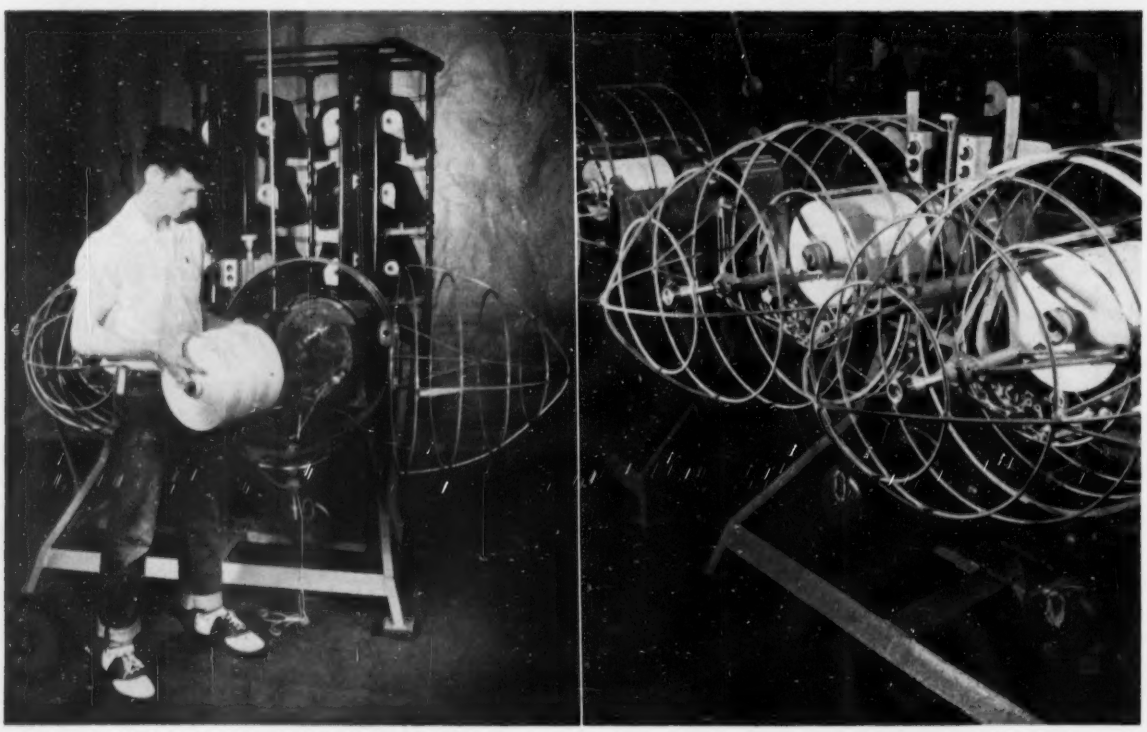
Each machine has its own individual motor drive, and two machines are mounted on a single base for economy of floor space.

The machine was primarily developed for use in the Deering, Milliken mills for the plying of synthetic filament yarns to produce industrial cords. It has also been used to ply cotton yarns for the tufted rug and chenille industry and is adaptable for plying any spun yarns.

Many economies in the production of industrial cord are effected by this machine, not the least of which is the elimination of the extra winding step which is necessary with the random-wound cord delivered on flange bobbins by the conventional twister. Others are:

1. Evenly twisted cord with a twist uniformity far superior to that of cord from a conventional twister.
2. Fewer broken filaments.
3. More precise tension control of the individual ends, resulting in better and more uniform lay of the ply.
4. Precision wound package built with greater uniformity and stability of lay.
5. This machine produces a continuous cord without knots in a package larger than any other similar package available to the industry. This results in reduced waste at lower

Full and close-up views of the two-for-one ply twister-winder developed by Deering Milliken Research Trust.



cost for the customer.

6. The package produced is a sales package complete with transfer tail, immediately adaptable for fabricating operations.

7. The precision gainer can be adjusted to give a very close build, thereby attaining higher density which permits free handling without damage to winding.

8. Although cylindrical packages are now being produced to the customer's specifications, cone packages, if required, can also be produced by insertion of change parts in the winding mechanism.

9. A ply range capable of twisting from 2 to 120, or higher, individual ends.

10. Wide denier range of the finished cord, which may run from 2,000 denier to 50,000 denier, giving the machine a phenomenal range of cord sizes.

11. Doffing of the 25-pound package, and reloading, may be performed in about one minute. It is not necessary to rethread the machine, so time is saved in loading the empty tube or cone for another package.

12. The twister is supplied from a creel.

The fields of application for cord and yarn from this machine are expected to be very wide, including belts of all kinds, fire hose, nets and seines, parachute cords; tires, chenilles, fringes, tufted rugs and carpets. In the rug and carpet field this uniformly twisted product promises to be particularly valuable because it permits more even dyeing than is possible with cords twisted on conventional machines.

The Research Trust does not propose to continue building the machine, but is now beginning negotiations with textile machinery manufacturers who would be able to make deliveries of the machine within reasonable time.

Deering Milliken Research Trust, Pendleton, S. C.

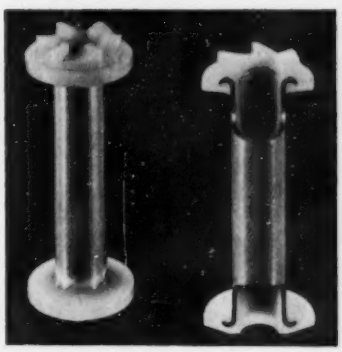
For additional data, request item E-123, using Handy Return Card on page 168.

Braider Bobbin Made of Nylon and Aluminum

A new type of braider bobbin, called Nylaclad, features a hub of aluminum tubing, flared at each end into a 180-degree reverse curve. Du Pont FM10001 nylon is injection molded around the flared ends and through the hub bore to form the hub lining and flanges.

Ratchet teeth are molded to the required accuracy of the same material in the same operation. Teeth will not chip, flange edges will not chip, dimensions in any direction will not vary more than .003", grease or oil will not injure any part.

Plastic Mold and Engineering Co., 473 Washington St., Wellesley 81, Mass.



For additional data, request item, E-130, using Handy Return Card on page 168.

Pacific Converter Includes Heat Stretch Process for Orlon Knitting Yarns

The operating range of the Pacific Converter has been extended to include processing of Orlon yarns for the knitting trade by Du Pont's new heat stretch method.

Installation of the new unit attachments developed for this purpose on machines already operating in the field can be accomplished in a few hours. The unit, which will henceforth be provided as standard equipment on Pacific Converters, consists of two additional sets of infeed rollers, spaced to permit the insertion of heater elements between the sets of rolls. The heater elements will be optional equipment.

The unit is completely contained within rigid side frames which are fastened directly to the main bed of the machine. Together with the three-high roll stand immediately ahead of the cutter and anvil roll, it provides the means for introducing the

AT YOUR SERVICE
SPECIALIZED ENGINEERING
SPECIALIZED EXPERIENCE
SPECIALIZED MACHINERY FOR TWISTING BUNCHING STRANDING FORMING AND LAYING IN THE TEXTILE • WIRE CORDAGE AND MANY OTHER INDUSTRIES
WRITE TODAY. YOUR INQUIRY WILL GET PROMPT ATTENTION.
HASKELL-DAWES MACHINE CO., INC.
2231 E. ONTARIO ST.
PHILADELPHIA 34
PA.

stretched and relaxed portions of tow to enter the cutter as a sandwich and be cut together, thereby forming the initial proportional blend. The stock then passes through the Converter in the usual manner for subsequent processing by the regular methods on Pin Drafters, or other gill boxes.

Drive for the rolls is from the anvil roll by chain and sprocket, with fixed increments to govern the degree of stretch.

Infeeding tows are protected by knot detectors for both strands.

Heaters are in operation at all times except when the machine is completely shut down. For intermittent stopping up to ten minutes, overheating of the stock is prevented by a fan cooling arrangement with automatic control tied into the stop motions. Additionally, a hand control lever is provided for rotating the heaters out of operating position.

The advantages in handling the heat stretch process for Orlon on the Converter are obvious for three main reasons:

(1) The rate of stretch can be controlled by increments to suit end conditions of yarn use.

(2) Heat-stretched and relaxed tows are entered simultaneously to form a pre-proportioned blend.

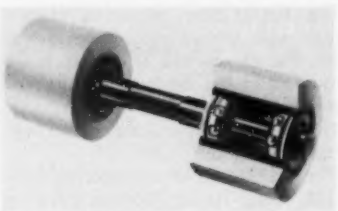
(3) Normal productivity of the Converter of 100-130 pounds per hour is maintained.

A new can coiler for the delivery end of the converter, which greatly improves the efficiency of the machine, has been developed and is available. This unit takes the sliver from an accumulator following the crimper, and coils it in a 15" diameter 36" high can, affording a can package of twenty pounds.

Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

For additional data, request item E-103, using Handy Return Card on page 168.

"Climax" Top Roll Can Be Weighted Up to 200 Pounds

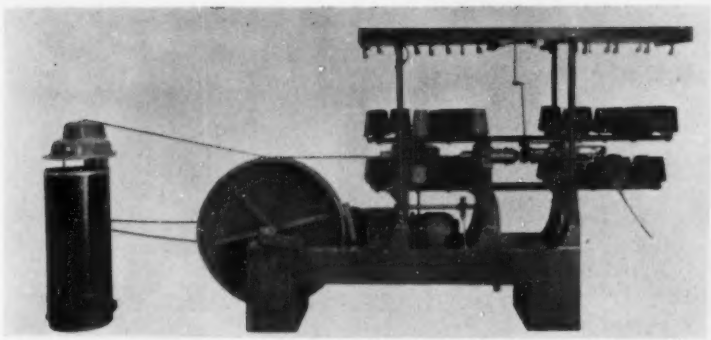


Addition of an "extra heavy duty" ball bearing top roll to the line of Climax job-rated top rolls has been announced. Weighting up to 200 pounds is made possible by a new design involving special machining techniques and accommodating larger bearings within a given diameter. The diameter of this new roll is 1⅝" without cot.

With the development of this roll for processing blends, particularly on American system worsted spinning and roving frames, the Climax line includes rolls for yarns of cotton, synthetics, wool, and blends.

Product Sales, Inc., Whitman, Mass.

For additional data, request item E-102, using Handy Return Card on page 168.



Full view of the Fidelity Sinfra core covering machine. For close-up of knitting element, see photo at bottom of page.

Machine Knits Cover on Core at 2500 Feet/Hour; Used for Rug Making

The Fidelity Sinfra core covering machine recently announced knits a covering on filler at speeds up to 2,520 feet per hour. Round or rectangular fillers can be covered for various industrial applications, including rug manufacturing.

The filler yarn passes through an automatic electric stop motion, then through the knitting head. The covered core passes through a softening device and is drawn through by the capstan. The covered core then enters the coiler head on the way to the rotating roving can. Filled cans are easily replaced. A predetermined counter is set for the desired number of feet and when that footage is obtained, the machine automatically stops.

The Sinfra cover consists of two intertwined knitted coverings. The stitches of the first covering cover the connecting yarn of the second covering, and the stitches of the second covering cover the connecting yarn of the first covering. Each individual covering is built up by four yarns equally spread over its circumference. Symmetrically arranged between the four yarns of the first covering are the four yarns of the second, thereby effecting a symmetrical layout of the eight yarns of the cover. In place of each yarn, there may also be used a yarn group. The intertwining of the four yarns in each covering produces a cover with these characteristics:

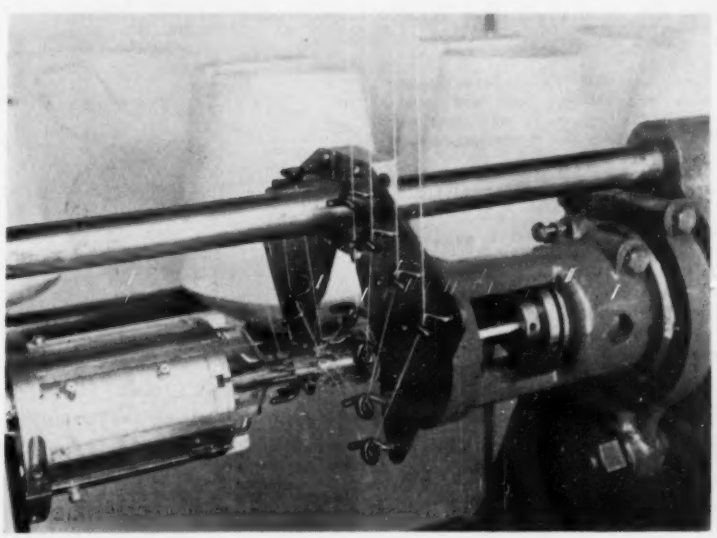
(1) Unique lock stitch prevents loosening and unravelling;

(2) Spiralled stitches prevent bursting of the cover from bending or twisting;

(3) Sinfrarized cover makes possible color combinations limited only by the imagination.

Fidelity Machine Co., Inc., 3908 Frankford Ave., Philadelphia 24, Pa.

For additional data, request item E-902, using Handy Return Card on page 168.

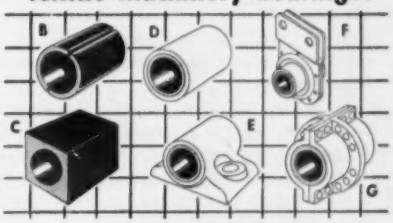


GRAPHALLOY

BUSHINGS

OPERATE
DRY or
SUBMERGED

The IDEAL
textile machinery bearings!



...self lubricating
...contain NO OIL

The GRAPHALLOY process was patented 40 years ago and the name GRAPHALLOY has been our copyrighted trademark since that time. While this company has been selling GRAPHALLOY for the past 40 years, recent developments have added materially to its properties.

...use GRAPHALLOY BUSHINGS for TROUBLE-FREE OPERATION in the following TEXTILE equipment!

BLEACHING	DYEING	NEUTRALIZING	SOAPING
CARBONIZING	EXPANDING	PICKING	SPINNING
CONDITIONING	FINISHING	PRESSING	STEEPING
CRABBING	FULLING	SCOURING	WASHING
DECATING	GYRATING	SINGEING	WEAVING
DRYING	MERCERIZING	SLASHING	WINDING

GRAPHALLOY BUSHINGS cut TEXTILE manufacturing costs in these ways:

- ELIMINATE OIL and OILING SCHEDULES
- PREVENT OIL AND GREASE SPOTS ON FABRICS
- AVOID WEAR ON SHAFT AND BUSHING FROM LINT AND DUST GATHERED BY OIL FILM
- OPERATE WITHOUT ATTENTION IN "INACCESSIBLE" LOCATIONS
- REDUCE FIRE HAZARD
- HAVE LONG LIFE
- EXCEL WHEN SUBMERGED . . . AS IN WASHING, BLEACHING, DYEING, CARBONIZING
- WITHSTAND HIGH TEMPERATURE (to 700°F) AS IN DRYERS, OVENS, MANGLES, and in ROTARY STEAM JOINTS

Use our 40 years of bearing experience

GRAPHITE METALLIZING CORPORATION
1069 NEPPERHAN AVE. • Yonkers, New York

Please send GRAPHALLOY BUSHING literature and Inquiry Form 107A

NAME & TITLE
COMPANY
STREET
CITY ZONE STATE

NEW Equipment AND MATERIALS

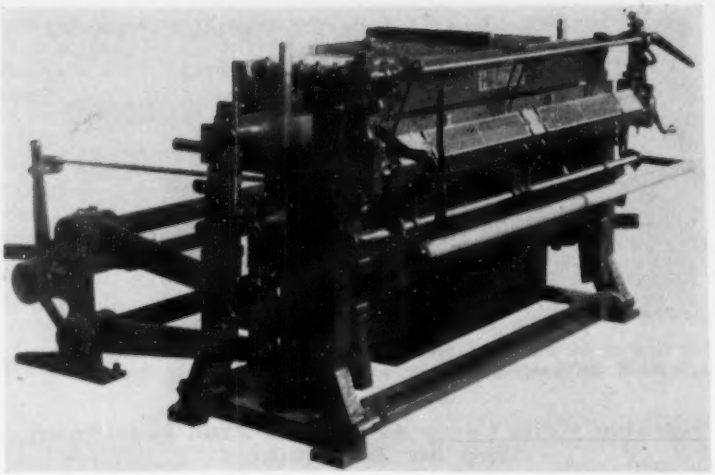
Paddle Wheel Dye Machine for Small Lots

A small capacity, stainless steel, paddle wheel dyeing machine is especially useful for laboratory experimental and control work, as well as special lot dye jobs. The machine is ideal for handling small production runs such as would be found in thread dyeing and in small lot custom dye houses.

Rigid construction is provided by individual paddles in the paddle wheel set into milled grooves and welded; splash covers protect motor and drive mechanism; and a heavy false bottom prevents danger of damage to goods or machine in the event of overloading.

Klauder Weldon Giles Machine Company, Adams Avenue and Leiper Street, Philadelphia 24, Pa.

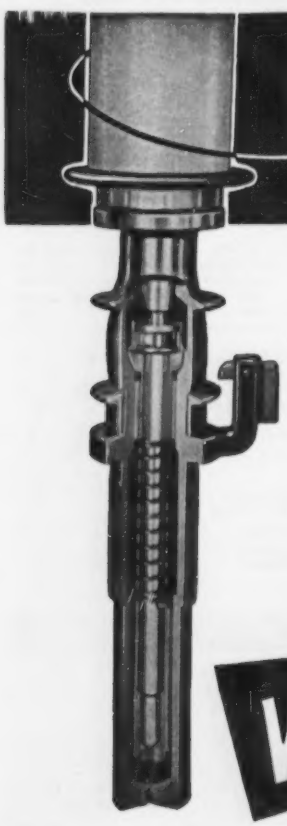
For additional data, request item E-903, using Handy Return Card on page 168.



Three-Position Jacquard for Wilton Carpet Weaving

Varied pile fabric effects in Wilton carpet can be achieved with a new three-position Jacquard head. It can produce float weaves with pattern in the pile and ground, and semi-oriental or "through the back" carpet. Also, any carpet woven on standard machines can be made without any change in this machine.

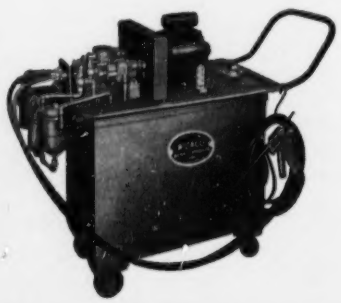
Utilizing the principle of the three-position Jacquard used many years for pile fabric weaving, this three-position Wilton Jacquard provides two separate sheds on every pick of the loom. Each end is individually controlled and can be placed in either the top, middle, or lower warp level



WICACO ROLLER BEARING SPINDLES
first in Quality since 1868

WICACO Roller Bearing Spindles, incorporating the SKF roller bearing type of bolster, are the finest spindles your money can buy, developed to perfection through the many years since Wicaco first introduced Roller Bearing Spindles to the Textile Industry.

Many textile mills have found that Wicaco Roller Bearing Spindles cost no more than ordinary ones, and reduce operating costs. We will design them to meet your particular requirements. Write today for quotations without obligation.



WICACO SPINDLE OILING MACHINE

The WICACO SPINDLE OILING MACHINE guarantees proper lubrication for all twisting spindles, flushes out the old oil and replaces it with fresh clean oil in one simple operation. Saves time, labor, power. Order yours today, or send for descriptive folder NOW.

WICACO

WICACO MACHINE CORPORATION
Designers and Manufacturers of Precision Machinery and Parts
WAYNE JUNCTION — PHILADELPHIA 44, PA.

AMERICAN SUPPLY CO.
1420 Broad St.
Central Falls, R. I.

RALPH GOSSETT & CO.
Suite 204, Crawford Bldg.
Greenville, S. C.
and P. O. Box 4052
Charlotte, N. C.

OTHER AGENTS in FOREIGN COUNTRIES

at any time.

The new head is being made in the same sizes as the standard Halton All-Wire Wilton Jacquard, so that a complete range of carpet widths can be presented.

Thomas Halton's Sons, C and Clearfield Sts., Philadelphia, Pa.

For additional data, request item E-120, using Handy Return Card on page 168.

Pneumatic Broken End Collector for Tape Condensers on Wool Cards

The Card-Tho-Mat, an automatic suction device for wool card condensers, removes broken ends and fibers pneumatically. The waste ends as well as broken ends are continuously sucked off.

The fan, driven by electric motor, collects the fibers through suction tubes which are mounted below the rubbing aprons. The action of the fan tears the roving into tufts and guides it through a pressure duct into a separator. The separator is fitted above the hopper feeder so that the fibers which are collected fall into the hopper.

If there is a separate suction bonnet on the fancy, it can be connected with the Card-Tho-Mat.

The following advantages permit amortization of the installation within a short period:

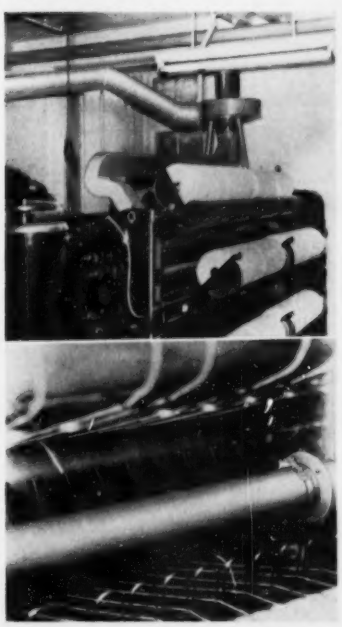
1. Reduction of the end breakage rate by about 80%.
2. Double ends are completely eliminated.
3. Card tender's activities are not retarded, but instead are made easier.

Suction tubes can be removed easily for the greasing of the aprons. At the start, when all ends are being collected on the jack spools, the vacuum can be stopped for a limited time by opening the air valves on the ends of the suction tubes without disconnecting the suction device. Ends down can be easily taken up and pieced together.

Stellite American Corp., 60 East 42nd St., New York 17, N. Y.

For additional data, request item E-112, using Handy Return Card on page 168.

Card-Tho-Mat installation. Top photo is overall view; lower, close-up (Stellite American).



Abrasion Tester Attachment Evaluates Pilling Tendency

An attachment has been developed for the United States Testing Co. abrasion tester for measuring the degree of pilling of fabrics. It fits onto the tester with no permanent modifications and provides a combination of rotary action and mild abrasion to result in pill formation closely duplicating those encountered in actual wear.

Abrasion tester with pilling attachment (U. S. Testing).

The pilling tester consists of a rotary table on which one section of a sample is mounted and a contacting disc on which a second section is mounted. The two make contact under a known and constant force. The abrasion tester has two reciprocating tables one of which is fitted

Designed by the TEXTILE Industry... Built by Colson

Model 3-408-16 Rigid fork caster with thread guards
Model 3-427-16 Swivel fork caster with thread guards
Model 4-507-65 Rubber caster—swivel fork

By working closely with people in the Textile Industry, The COLSON Corporation has developed a series of wheels, casters and trucks which will fit your *exact* needs. COLSON wheels and casters roll easily over all types of floors. They swivel freely and are rust resistant. Many models have thread guards. Write us *now* or consult the yellow pages of your 'phone book for the name of the COLSON office near you.

Write Today for Free COLSON Materials Handling Catalog

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • LIFT-JACK SYSTEMS • INDUSTRIAL TRUCKS

with a rotary table six inches in diameter and free to turn in a clockwise direction. One arm of the abrasion tester which normally holds a flat abrasive in contact with the reciprocating table, is replaced with a special arm bearing a two-inch disc free to turn in only one direction. By off-setting the top disc from the center of the table the two in contact produce a rubbing and twisting action which creates pilling.

United States Testing Co., Inc., 1415 Park Ave., Hoboken, N. J.

For additional data, request item E-904, using Handy Return Card on page 168.

Double Production on Existing Spring Needle Knitting Machines

A conversion kit now available for double head spring needle knitting machines permits production to be doubled without increasing the speed —instead the number of feeds is increased. For example, 18 feeds replace the present seven on a 20-inch cylinder of jersey fabric.

An adapter ring which will accommodate a new type feed is included in the kit to fit present double head spring needle tables. The new feed is composed of a clearing wheel, stitch wheel, and presser, and streamlined so that it requires less space.

Though more feeds are installed on the machine, there is ample space to permit easy replacement of needles, etc. It is necessary to convert the old take-ups to accommodate the additional production, and this is comparatively simple.

The feeds can be pre-set before being placed on the adapter rings. All adjustments can be made with one Allen wrench. Stop motions are provided to assure production of quality fabrics.

This manufacturer is presently in the process of tooling for production of a complete new spring needle knitting machine which will also utilize these new feeds. Thus mills contemplating replacing their existing spring needle equipment will not lose money by going ahead and converting now. The feeds can be utilized on the new machines when they are purchased.

Precision Knitting Machine Co., 503 W. Belden Ave., Syracuse, N. Y.

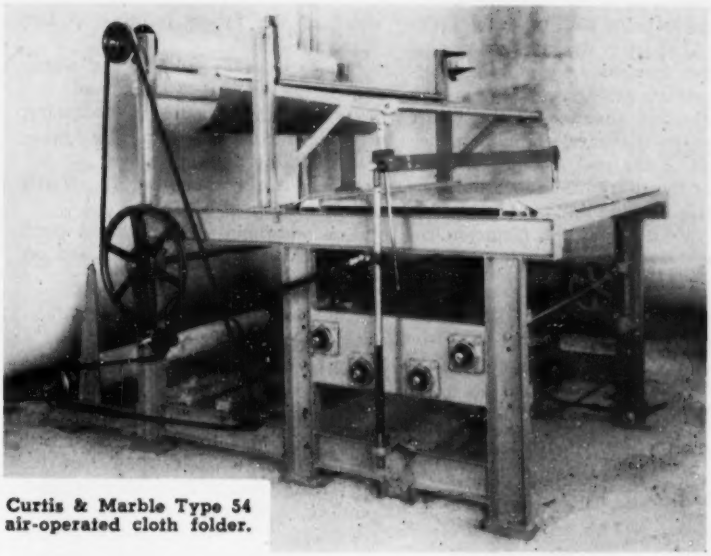
For additional data, request item E-905, using Handy Return Card on page 168.

Air-Operated Cloth Folder Requires Less Space and Maintenance

Features of the Type 54 air-operated cloth folding machine over previous models include: welded steel construction, increased capacity, less floor space and reduced maintenance requirements; a driven unrolling attachment with synchronized drive for feeding-in rolls, allowing use of small scray; V-belt drives, including variable speed drive with speed reductor unit eliminating pul-

Stainless Steel
Dye Tubes
. . . for your package
dyeing machines
Precision Built: These tubes are perfectly sized for roundness, and holes are evenly spaced for uniform dye penetration. Ends are 100% level and rounded to prevent snagging.
Strength: Type 304 stainless steel provides great resistance against crushing action and passes all acid tests. Several hundred thousand of these tubes are now giving perfect service in Southern dye plants. Write for quotations.
TOOL SERVICE ENGINEERING CO.
309 W. Crowell St. Monroe, N. C.

PANEL HEAT REDUCED 100%!
HORSE POWER LOAD INCREASED!
TRICO
KLIPLOK
CLAMPS
FOR FUSE CLIPS
Contractor writes: "Kliploks reduced panel board heating 100% permitting increased H.P. load."
Save
• POWER
• FUSES
• CLIPS
CUT MAINTENANCE COSTS
Kliploks lock fuses and clips together. Stop arcing and heating, eliminate burnt fuses and clips, reduce premature fuse blowing. Easily installed. Pay for themselves quickly.
TRICO OILERS
• Eliminate Hand Oiling
• Save Oil, Time, Worry.
Types and sizes for most every application. Easily installed.
WRITE FOR FREE CATALOG
THERE ARE MANY OTHER USES FOR KLIPLOK CLAMPS:
Temporary connections, cable splicing, clamping switch jaws, soldering, welding, etc.
SEND FOR BUL. NO. 6
TRICO FUSE MFG. CO., Milwaukee, Wis.
In Canada: IRVING SMITH LIMITED, Montreal



Curtis & Marble Type 54 air-operated cloth folder.

leys; self-aligning ball joints for crank connections, small pivoted air cylinder, and improved blade motion resulting in smoother running.

The new folder is available with self-contained air compressor, automatic seam detector with brake motor, and electric yardage counter as optional equipment.

Curtis & Marble Machine Co., Worcester 3, Mass.

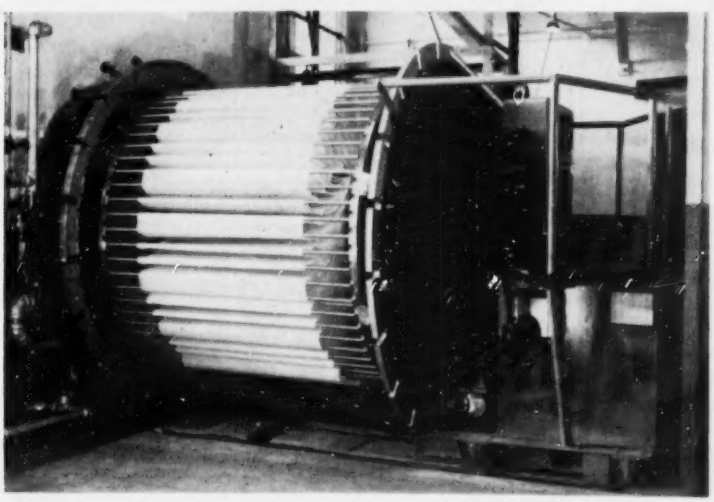
For additional data, request item E-113, using Handy Return Card on page 168.

Barotor for Pressure Piece Dyeing Now Available from James Hunter

The Barotor, a pressure piece goods dyeing machine developed by the Textile Fibers Department of E. I. du Pont de Nemours & Co., Inc., is now being manufactured for commercial installations. It is a horizontal, cylinder-shaped autoclave fabricated from heavy-gauge Type 316 stainless steel. The fabric is mounted in open width on a rotor in tensionless condition. Loading and unloading are easy.

One of the primary advantages of the Barotor is its ability to dye the new synthetics under high temperature at an economical speed. In the

Installation of the Hunter Barotor at Waldrich Co.



BOILER ROOM BLUES?

If your out-dated boiler room has you singing the blues, why not consider a modernization and renovation program to put it on an efficient basis?

McBurney makes the best boiler room equipment and service available to you, and has served the textile industry in this capacity since 1911. Give some thought to your boiler room and . . .

CALL McBURNEY!

McBURNEY is ready to serve you with these fine equipment lines: COPES-VULCAN BOILER CONTROLS, COPES FEEDWATER REGULATORS, VULCAN SOOT BLOWERS, McBURNEY UNDERFEED COAL STOKERS, AQUA ELECTRIC SCALE CONTROL, GAS & OIL BURNING EQUIPMENT.

McBURNEY STOKER & EQUIPMENT COMPANY

2110 Peachtree Rd., Atlanta, Ga.

PHONE ELGIN 4436

case of blends, the machine allows high temperature dyeing of the synthetic content above 212 F, followed by dyeing of the cotton and rayon content at lower temperature. Filament and spun fabrics of rayon, acetate, nylon, "Orlon," and "Dacron" have been dyed successfully.

Tests at Waldrich Co., where the first unit was installed, showed that a full range of shades, including dark shades with excellent fastness, are practical. Some fabrics have been dyed in only three hours without using a carrier. Quality, levelness, and fastness of the Barotor-dyed cloth were found to be outstanding. The elimination, in most cases, of the necessity of a dye carrier is one of the economies effected by the machine.

Further economy of operation is reflected in savings in steam and water. This is accomplished by a reduced volume of dye bath where dye ratios are decreased, resulting in less steam required to bring bath up to temperature. A shorter dyeing cycle, plus efficient insulation, promises additional steam savings.

Continuous advance of the fabric relative to the bars, combined with rotation of the reel, enables all portions of the fabric to have equal contact with the dye liquor at least once every minute, a major factor in reducing dyeing time. Bar marking of the fabric is prevented by "progression" of the fabric relative to the bars.

Fabric samples suitable for shade matching can be taken from the Barotor at any time during the dyeing cycle without interrupting the operation or losing pressure.

James Hunter Machine Co., North Adams, Mass.

For additional data, request item E-108, using Handy Return Card on page 168.

Pistol-Type Oiler Has Adjustable Metering Device

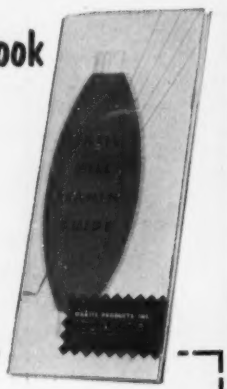
A new Plews pistol-type oiler is equipped with an adjustable metering device so that just the correct amount of lubricant can be uniformly applied. A selection of specially designed nozzles gives complete control of the oil stream. Available with half pint, pint, and quart capacities, it is rigidly constructed of nickel plated heavy gauge steel to stand up under heavy use.

In addition to this new oiler, several changes and improvements have been made in the entire line of Plews pistol and pump-type oilers.

A new seamless spout has been developed for all models to replace the soldered seam-type previously used. A leak-proof coupling for use on all

NEW, FREE Handbook

brings you up to date on the latest developments in mill-wide cleaning—tells you how to save time and money on scouring and kier-boiling operations; maintaining equipment, machinery, humidifiers, power plants; paint stripping and rust removal. Mail the coupon for your copy—today!



OAKITE PRODUCTS, INC.
26C Rector St., New York 6, N. Y.

Please send me your free "Textile Mill Cleaning Guide."

NAME_____

ADDRESS_____

COMPANY_____

SPECIALIZED INDUSTRIAL CLEANING
OAKITE
MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. and Canada

SPEED OHIO REDUCERS
for every industrial purpose

Years of engineering experience, combined with the most modern equipment and quality materials go into the manufacture of Ohio Gear speed reducers. Every detail of production and workmanship is designed to insure accuracy, durability and years of trouble-free operation.
Illustrated above are a few applications by large manufacturers who depend on Ohio Gear.

1. Ohio Gear DPL Speed Reducer operating a paint booth turn-table in a large metal working plant.
2. Ohio DS Speed Reducer, 300 to 1 ratio, used in the drive of a machine which automatically welds both heads into the shell of a 55 gallon barrel.
3. A PL2 Reducer, 40 to 1 ratio, operating the turn-table of a machine automatically welding automobile crankshaft vibration dampers.
4. Ohio Gear DHU Speed Reducer operating an overhead scrap conveyor belt in a large die casting plant.
5. Series of Ohio Gear HS Speed Reducers operating conveyors in a California fruit packing plant.

Consult your nearest distributor or write us for complete information.

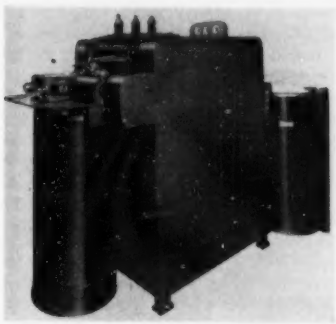
ESTABLISHED 1915
THE OHIO GEAR COMPANY
1365 EAST 179th STREET • CLEVELAND 10, OHIO

OHIO GEARS

oilers with interchangeable spouts has been designed, and the method of attaching a fixed-type spout to the container has been improved. All models are made with one-piece drawn steel base.

Plews Oiler Co., 701 South 7th Street, Minneapolis, Minn.

For additional data, request item E-128, using Handy Return Card on page 168.



The Southwell Sizer.

Machine Squares and/or Blends Top at 300 lb per hour

For squaring and/or blending of wool, mohair, and synthetic tops is the Southwell Sizer featuring production of approximately 300 pounds per hour and draft of 0 to 15 approximately.

The standard machine is equipped with three sets of rubber rolls; a fourth set can be added at slight additional charge. Working width of these rolls is 16 inches.

Single or double delivery is available with crimper attachment or coiler.

Southwell Textile Machinery Research Corp., North Chelmsford, Mass.

For additional data, request item E-111, using Handy Return Card on page 168.

Controller Eliminates Start-Up "Overshoot" in Batch Processes

The Batch Stabilog Controller, specially designed to prevent "overshoot" of a variable during the start-up of batch processes, is particularly applicable for close control in textile processing where most equipment is operated on a batch or semi-continuous basis.

The batch instrument is a conventional Foxboro Stabilog Controller, modified with a batch mechanism. The unit may also be added to Stabilog Controllers in the field.

The batch mechanism is a three-way switch that is tripped by the output pressure of the controller. When a process is being shut down and the measured variable drops below the proportional band, the switch cuts in to vent the reset system and reverse the action of the reset bellows. This lowers the proportional band so that when the process is started again, throttling action starts sooner than with a conventional controller. As soon as the measurement enters the proportional band, the switch is cut out and normal control action brings the pen to the control point.

Instead of the undesirable "wind-up" which automatic reset ordinarily produces during periods of shutdown, the batch switch reduces the delay in initial control response, preventing the variable from "overshooting" the control point.

The Foxboro Co., Foxboro, Mass.

For additional data, request item E-114, using Handy Return Card on page 168.

New Books

The Structure of Textile Fibers was published to provide a simple account of fiber structures for the benefit of those without specialized scientific training. There are three general chapters followed by one each on cotton, silk, wool, flax, long vegetable fibers, viscose rayons, cellulose acetate, fibers made from dispersed proteins, alginate fibers, and synthetics. Textile Institute, 10 Blackfriars St., Manchester 3, England.

The new complete *Educational Film Guide* lists approximately 11,000 16mm educational films indexed by subject. An alphabetic title and subject section serves as an index to the classified section which contains full description of the films, silent or sound, running time, etc. The H. W. Wilson Co., 950 University Ave., New York 52, N. Y. (price $7.50).

Stock Market Profit without Forecasting—A Research Report on Investment by Formula Plan, by Edgar S. Genstein, offers original plans for computing relationship of stock prices to normal value to determine whether stocks should be bought or sold. Author claims he has successfully

SO EASY TO CHANGE SPEEDS

Only Wood's variable Speed Drive gives you . . . .

Wide Speed Range—Up to 3 to 1 speed range ratio.

Positive Locking—Eliminates fretting corrosion.

Horsepower Range—Improved notched belt construction gives higher horsepower capacity. Range—5 to 20 horsepower motors.

Less Shaft Overhang—Single belt design reduces weight and space required

No Lubrication—No grease fittings . . . eliminating preventive maintenance

More Economy—This unit will give a variety of speed changes best suited for your product or operation . . . sensibly priced too.

For more detailed information call or write T. B. Wood's Sons Company . . . and ask for Bulletin #796.

T. B. Wood's Sons Co. Chambersburg, Pa.

Cambridge, Mass. • Newark, N. J. • Dallas, Texas • Cleveland, Ohio

NEW Equipment AND MATERIALS

delineated the major buying and selling zones. Investment Research Press, 45 University Court, South Orange, N. J., cloth $3.50 postpaid.

Designed to provide extensive, up-to-the-minute coverage of news, trends, and techniques in the industrial relations field is the *Industrial Newsletter* to be issued weekly beginning April 5. Subscription $24 per year. Industrial Relations Newsletter, Inc., 230 West 41st St., New York 36, N. Y.

The second edition of *Fiber Science* is now available from The Textile Institute, 10 Blackfriars St., Manchester 3, England. The book surveys constitution, structure, and reaction of fibers. Accounts are given of fundamental and physical properties and the relation of these to technologically important behavior in dyeing and finishing.

The 1953 compilation of *ASTM Standards on Textile Materials* brings together in compact, readily usable form, the ASTM specifications, test methods, and tolerances. Included are proposed methods of test for identification of finishes on textiles and recovery of textile fabrics from creasing using the roller pressure apparatus. Also, recommendations for the establishment of standard moisture content for wool and its products. American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. (price, $5.25).

Now available are the *Proceedings of the 17th Annual Time and Motion Study and Management Clinic*. 168 pages including charts, forms, and illustrations. Published by the Industrial Management Society, 35 East Wacker Drive, Chicago 1, Ill. (price, $4.00).

Volume 4 of the *Review of Textile Progress* has been published by The Textile Institute, 10 Blackfriars St., Manchester 3, England (price, $5.00). Contains information by 29 contributors on physics and chemistry of fibrous materials; fiber, yarn, and fabric production; coloring matters; coloring of textiles; finishing textile fabrics; analysis, testing, grading, and defects; laundering and dry cleaning; building and engineering; industrial applications of textiles.

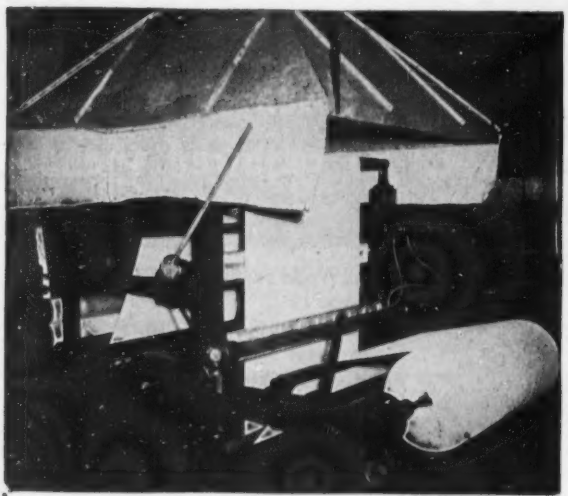
Want More Information on These Items?

Use Handy Return Card on page 168, giving Key Number (E-300 etc.) which appears after the name of the supplier of the item in which you are interested. Or, if you prefer, write supplier direct.

A new series of **polarizing microscopes for** use in the textile industry and related fields features a ball-bearing, low position, fine-focusing stand; a ball-bearing, revolving stage with one degree graduations and vernier reading to six minutes of arc; a ball-bearing double nosepiece with ball stop and true return to centration when changing objectives. Standard equipment is 10X and 45X strain-free achromatic objectives.

Bausch & Lomb Optical Co., 635 St. Paul St., Rochester 2, N. Y. (E-306).

Du Pont **spun-dyed acetate yarns** now available in stock quantities are navy-blue, black, scarlet, and maroon. Irish green and gold will be available shortly. Other colors under consideration are chartruese, copper,



RED RAY BURNERS

For a Better Singe

Red Ray Burners installed on a singeing machine give better and faster singe. Reduce costs.

Write for further information.

Red Ray Manufacturing Co., Inc.

455 W. 45th St. Tel: Plaza 7-5174 New York, N. Y.

COTTON YARNS

Knitting and Warp

4's to 30's Single and Ply

Uniformity

Carded Combed

COMER-AVONDALE MILLS, INC.

Boston — Chattanooga — Chicago — Charlotte — New York
Philadelphia — Reading

representing

AVONDALE MILLS, Sylacauga, Alabama

COWIKEE MILLS, Eufaula, Alabama

BETTER by Design... BETTER for You!

Lazenby filling winders are precision-made to give you maximum yardage and uniformity at the smallest possible operating cost. Your maintenance is small, your production returns are great. We can supply any kind of filling winders you may need. Send us a small supply of your yarn and we'll wind and return with Test Wind Report and Catalog.

F. A. LAZENBY COMPANY

3106 Elm Ave. Baltimore 11, Md.

Oriental blue, and coral.

E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del. (E-303).

A **portable sprayer for the control of flying and crawling insects** is semi-automatic and electrically-operated. Called the Robot Mistorizer, it breaks down either oil- or water-based insecticides into a dry mist and ejects them under high pressure. Features an automatic timer which can be adjusted to turn off spray after a predetermined period of time. Can be regulated to dispense from one pint to one gallon per hour.

West Disinfecting Co., Long Island City, N. Y. (E-350).

New **polyvinyl acetate emulsions** specially designed for textile finishing are ready-for-use, water resistant, and produce clear, tough films possessing good resistance to dry cleaning. Also show good compatability with starches, synthetic and natural gums, clays, plasticizers, etc. Applications include non-woven fabrics, carpets, upholstery, cotton sheeting, nylon hosiery, and draperies.

National Starch Products, 270 Madison Ave., New York 16, N. Y. (E-351).

Heavy-duty protected **induction motors in NEMA frame** sizes are available in ratings from ½ to 125 hp and can be installed anywhere in any climate, outdoors without a cover, in damp areas, in dusty or corrosive environments, in normal service surroundings where condensation is always a hazard.

The Electric Products Co., 1725 Clarkstone Rd., Cleveland 12, Ohio (E-352).

For the "trackless train" system of materials handling a completely new "Tug" **electric tractor,** identified as Model No. 550, is available in either twin-three or conventional four-wheel types. Both types are offered in two drawbar capacities—2,500 lb and 3,000 lb. Automobile type wheel steering, unit assembled double reduction drive, and self-energizing hydraulic brakes.

Mercury Mfg. Co., 4044 South Halstead St., Chicago 9, Ill. (E-353).

Indanthrene Green Blue 3 G Double Paste is a new vat dyestuff which produces a greenish blue or aqua marine shade. It is more greenish blue than the "Brilliant Green Blue," and some describe it as a turquoise blue as well as aqua marine.

General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. (E-307).

Plastic bottles for use with conditioning attachments on Foster model 102 and Model 75 winders eliminate necessity for replacement due to breakage and the hazard of injuries caused by fragmentation or impact. Impervious to oil or other conditioning fluids. Translucent so operator can see when bottle is empty. No alteration of present equipment necessary to changeover from conventional glass to plastic bottle.

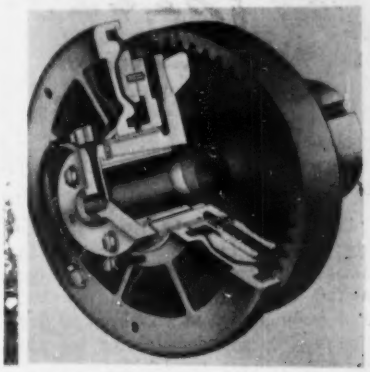
Foster Machine Co., Westfield, Mass. (E-308).

Penetron Conc. is a new wetting agent useful in neutral solutions, solutions of alkaline builders, salts, soaps, organic acids, and in dilute sulfuric acid. Applications: dispersing agent to dissolve dyestuffs; wetting out in desizing rayon, cotton and acetate goods; prior to bleaching and kier boiling; as an additive to dyebath on all types of machines and all kinds of colors where increased penetration and uniformity of shade are difficult to accomplish.

Hart Products Corp., 1440 Broadway, New York, N. Y. (E-309).

New gray resin fast dyes for viscose or cotton fabrics are Calcodur Resin Fast Gray 2G and Calcodur Resin Fast Gray B. The former is a green-gray, the latter a full blue shade gray. They retain good light fastness and show improved wash fastness after resin treatment. Both colors are level dyeing and possess

Air-Actuated Loom Clutch Improves Cloth Quality



The Model PT Air-Actuated Loom Clutch is a new friction drive. Pressure to the clutch plates is applied by direct air pressure in an expanding chamber. With capacity in direct proportion to the air pressure applied, the clutch is self-compensating for wear, completely eliminating need of adjustment. It offers simple fingertip or push-button control, from single or multiple stations.

By always remaining within proper adjustment, the clutch assures proper control of the pick, improving quality of the cloth. Thus by standardizing on the new clutch, the loom fixer's work load is reduced.

Compact and rugged in construction, the mechanism has fewer working parts—assuring longer life and lower maintenance. Further design advantages are provided in such features as tapered sleeve hub construction, accommodating minor variations in shaft size—thereby making it readily applicable to existing looms, or easily designed into new machines. The Model PT can also be used as a brake, and is also applicable to other textile machinery.

Twin Disc Clutch Co., Dept. DS, Racine, Wis.

For additional data, request item E-119, using Handy Return Card on page 168.

THROWSTERS:
there's a NEW SHORT-CUT METHOD
to better quality low denier yarn
IT'S ANOTHER PROFIT-MAKER FROM U. S. TEXTILE MACHINE CO.

write, wire or telephone for complete information
U. S. TEXTILE MACHINE CO.
SCRANTON 8, PENNA.

NEW Equipment AND MATERIALS

good solubility.

American Cyanamid Co., Dyestuff Dept., Bound Brook, N. J. (E-310).

Chromspun crystal fiber is now being produced in staple as well as in filament form. The highly reflective surface lends an interesting sparkle, with permanence to washing and dry cleaning, to blended fabrics for apparel and home furnishings uses.

Eastman Chemical Products, Inc., Kingsport, Tenn. (E-311).

A **two-needle lockstitch compound feed machine** for light to medium heavy sewing is designated 212W140. Higher quality work, greater economy of maintenance, and greater production are obtainable.

Singer Sewing Machine Co., 149 Broadway, New York 6, N. Y. (E-312).

For cleaning motors, machines, switchboards, etc., is a **portable electric blower** which features a heavier duty, longer lasting 1 hp motor, and weighs only 14 pounds.

The Ace Co., P. O. Box 1212, Ocala, Fla. (E-313).

Two integrating instruments—one current integrating and the other current-squared integrating — are designed to reduce laborious statistical analysis to a simple slide rule calculation. Developed for use with the Pacific evenness tester, the instruments permit the rapid determination of the average thickness and standard deviation of tested samples.

General Electric Co., Meter and Instrument Dept., Schenectady 5, N. Y. (E-314).

Tiering of goods up to 16½ feet by fork trucks only seven feet high is

Three-Bale-a-Minute Speed Quickly Unloads Cotton Trailers

Flat-bed cotton trailers with 36 bales of cotton can be unloaded at the rate of one every twelve minutes by use of a fork lift truck developed especially for cotton warehouses and compresses.

The truck is a Towmotor model LT-460 and is equipped with a long reach bale clamp which picks up two bales at a time. From the trailers, the bales are taken by truck for shipment by boat, rail or truck transfer to mills or other warehouses.

Towmotor Corp., 1226 E. 152nd St., Cleveland 10, Ohio.

For additional data, request item E-901, using Handy Return Card on page 168.

For Nearly Half A Century

• • • • we have been printing Textile Industries and other W. R. C. Smith Publications in our growing plant which is today one of the South's largest, leading and most progressive printing organizations.

L. A. LEE Company, Inc.
DALTON, GEORGIA
Printers and Publishers

MILTON STEEL BARREL WARP BEAMS

pictured is Milton Broadloom Beam for C & K Looms

for BROAD, NARROW FABRIC, RIBBON, VELVET & CARPET LOOMS

MILTON steel barrel Warp Beams are sturdily constructed with cast iron adjustable or fixed flanges. Ends equipped for all types of let-off.

WRITE FOR FREE BULLETINS
No. 45-B (Steel Beams) No. 49-A (Light Metal Beams)
MILTON MACHINE WORKS, INC.
MILTON • PENNA.

RENEEDLING:
Cotton comber half laps and top combs French and Italian half laps and top combs.
Faller bars for Warner & Swasey Pin Drafters Winder and Spooler Guides.

SHEET METAL:
Card screens for all types of cards.
Cylinders for spinning twister quiller and spooler frames.
Picker screens—waste machine screens, Comber tins, Aspirators and Dampers.

JENKINS RENEEDLING CO., Inc.
——WORLD'S LARGEST TEXTILE RENEEDLING WORKS——
Owned and operated by Geo. W. Rhyne & W. Jack Simmons.
GASTONIA, N. C. PHONES: 8911 5-0522

now possible with a new triple-telescopic mast, allowing users to take advantage of high warehouse and factory ceilings for storing without sacrificing the 83-inch overall truck height needed to operate in areas where clearances may be limited.

Automatic Transportation Co., 149 W. 87th St., Chicago 20, Ill. (E-357).

New Series 80 **d-c amplifiers** convert low level d-c microampere or millivolt inputs to a high level d-c current output. Incorporating a high gain feed back loop, the amplifier has exceptional long and short term stability characterization. It is suitable for many laboratory applications involving measurement or recording of low level d-c signals, and has also been designed for industrial use, particularly as a thermocouple amplifier.

Fielden Instrument Div., Robertshaw-Fulton Controls Co., 2920 North Fourth St., Philadelphia 33, Pa. (E-358).

Giant paper bags able to accommodate objects up to 14 feet long with a circumference up to 74 inches make it possible to package such objects as 12 x 15 rugs, rolls of carpets, textiles, etc. Bag can be produced in sizes up to 19" x 18" x 167".

Equitable Paper Bag Co., Inc., Long Island City, N. Y. (E-359).

A four-wheel "Banty" **gasoline tractor,** Model 460, for use in the trackless train system of materials handling, is being manufactured in two models—2300 lb maximum drawbar pull and 3,000 lb maximum. Outside turning radius of 62 inches.

Mercury Mfg. Co., 4044 South Halsted St., Chicago 9, Ill. (E-360).

A light service, quick action **wire rope hoist,** known as the Lift About-Jr., is designed for intermittent duty and is available in ¼ to 1 ton capacities. Comes with either a-c or d-c motor. Can be supplied with collectors for regular conductor systems or with a tag line. Furnished either parallel or cross mounted, with bolt, hook or trolley suspension.

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y. (E-361).

An **alkyd-type flat wall paint,** known as Wallhide PBX, possesses qualities of durability, washability, mar resistance, uniformity of appearance, and ease of application. No primer needed. One coat covers previously painted surfaces.

Pittsburgh Plate Glass Co., 632 Fort Duquesne Blvd., Pittsburgh 22, Pa. (E-801).

Sponge rubber matting to prevent foot fatigue for people whose jobs keep them on their feet all day is made in both a ribbed and pyramid surface to insure safe footing. Two-layer construction of sponge rubber protected by a tough rubber cover. Sold in 25-foot lengths, 36 inches wide.

United States Rubber Co., Mechanical Goods Div., Rockefeller Center, New York 20, N. Y. (E-355).

A **soft vinyl frame safety goggle** for 100% protection against chemical splash, molten metal, sparks, and impact hazards is called "Stac-Vent" because of the method by which it is vented to prevent fogging. Warm moist air is drafted off from top and center like chimney draws smoke.

Watchemoket Optical Co., 232 West Exchange St., Providence, R. I. (E-802).

A new handling device, the Tow-Loader, makes it possible **to use thin pallet sheets** in place of the conventional fork entry type pallets used in handling unit loads. Consisting of a modified Towmotor unloader accessory with a gripping device built into the pusher frame, the Tow-Loader pulls the palletized load onto either blades or forks and pushes it off at set-down points.

Towmotor Corp., 1226 East 152nd St., Cleveland 10, Ohio. (E-803).

The Flow-Therm **packaged water chiller** is designed to allow the user to tailor the unit to his exact job requirements, retaining the advantages of the factory package, minimum erection and installation expense, space conservation, and balanced efficient performance. Shipped without compressor so purchaser can choose his own. Capacities: 15 to 220 tons.

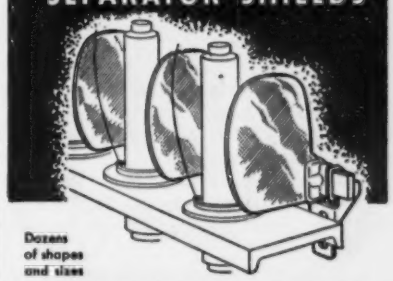
Acme Industries, Inc., Mechanic and Ganson Sts., Jackson, Mich. (E-804).

Semi-automatic reconditioning of the collector plates of the American Air Filter Electro-Cell electron precipitator is provided by the recently developed Type H washer. It washes the plates with water sprays and recoats them with a dust holding adhesive. Entire operation is automatic after starting button is pushed.

American Air Filter Co., Inc., Louisville 8, Ky. (E-805).

High sensitivity, long term stability, reliability, and low cost are featured in a new **two-zone electronic temperature controller** designed for a

Permalite ALUMINUM ALLOY
SEPARATOR SHIELDS



Dozens of shapes and sizes

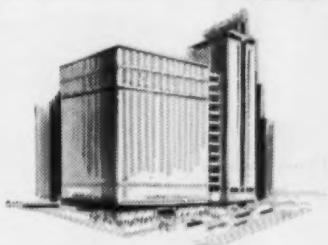
BETTER YARN AT LESS COST

- Fewer ends down—some mills report 27% less
- Use two numbers lighter travelers for higher-strength yarn
- Polished aluminum blades stronger than steel—much lighter—cost less
- Non-slotted blades mean less wear on yarn, less lint, fewer slubs
- 7,000,000 in use by more than 400 mills

Coleman Co., Box 3597, Greenville, S. C.
Harry A. Haynes, Box 1724, Chatt., Tenn. (Ga-Ala)
Matthews Equip. Co., 93A Brdwy., Prov., R. I.
Don O'Hair, Box 8254, Charlotte 8, N. C.

WHITEHEAD ENGINEERING CO.
P. O. BOX 488
EMORY UNIVERSITY, GA.

Everything's New at
DINKLER HOTELS



THE DINKLER PLAZA
Atlanta
THE DINKLER-TUTWILER
Birmingham
THE DINKLER-JEFFERSON DAVIS
Montgomery
THE DINKLER-ANDREW JACKSON
Nashville
THE ST. CHARLES
New Orleans
Teletype Service to all Dinkler Hotels

DINKLER HOTELS
CARLING DINKLER, *President*
CARLING DINKLER, JR., *Vice President*

NEW Equipment AND MATERIALS

wide range of industrial applications as well as laboratory work. Identified as Series 97 electronic temperature controller.

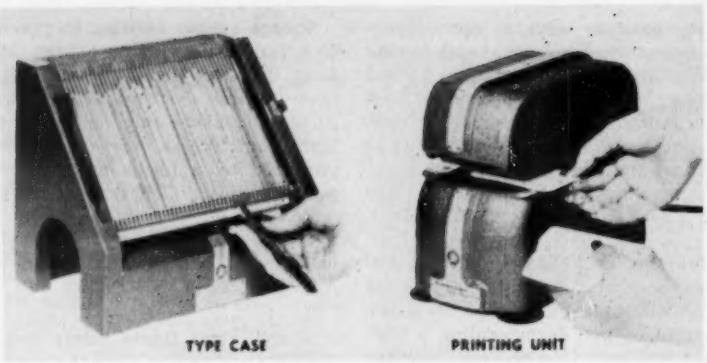
Fielden Instrument Div., Robertshaw-Fulton Controls Co., 2920 North 4th St., Philadelphia, Pa. (E-806).

A newly designed **hydraulic pusher attachment** for use on hydraulically actuated fork trucks provides a means for mechanically pushing a load off a truck's forks and is designed principally for handling loads without pallets. Does not reduce capacity of a truck.

Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 3, Ohio (E-807).

To **imprint individual tags,** labels, and forms, the American Jiffy Print offers flexibility, economy, speed, and quality imprinting. Type rack makes it unnecessary to touch type so that operative and operation are cleaner and more efficient. Printing machine is hand fed and completely automatic.

American Tag Co., Dept. JP25, Belleville 9, N. J. (E-356).



American Tag Company's "Jiffy Print".

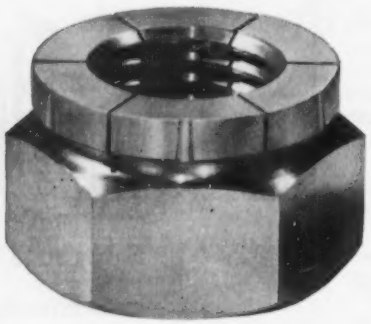
Now on the market is a **non-tarnishing metallic sewing thread** which can be used in all types of sewing and embroidering.

Metlon Corp., 432 Fourth Ave., New York 16, N. Y. (E-354).

To reduce rotating joint maintenance time in the insertion and removal of mechanical syphon pipes in rotating rolls or drums that require insertion of steam and other liquids, the Johnson Type J rotary pressure joint has been made available with a special assembly plate which serves to hold the internal parts of the joint in position when head is removed. A hinged syphon elbow is also available which eliminates the chore of carefully inserting a curved pipe.

Johnson Corp., Three Rivers, Mich. (E-808).

they're ONE piece, ALL metal...



no parts to work loose or get lost

Because they are one piece—nothing to assemble, come apart, lose or forget—FLEXLOC locknuts save production time. Because they are all metal, they lock and stay tight at higher temperatures. See your local industrial distributor for literature and samples or write STANDARD PRESSED STEEL CO., Jenkintown 34, Pa.

FLEXLOC LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

KENTEX
TEXTILE APRONS

KENTEX long draft aprons are precision-built, to any specifications, on short notice. Write us, sending size, for free samples and prices. We are world's largest manufacturers of genuine leather textile aprons.

TEXTILE APRON COMPANY
East Point, Georgia
Hugh Williams & Company—Toronto, Canada

PRECISION BUILT

FREE TRIAL

Davis Card Scavenger Roll Covers®

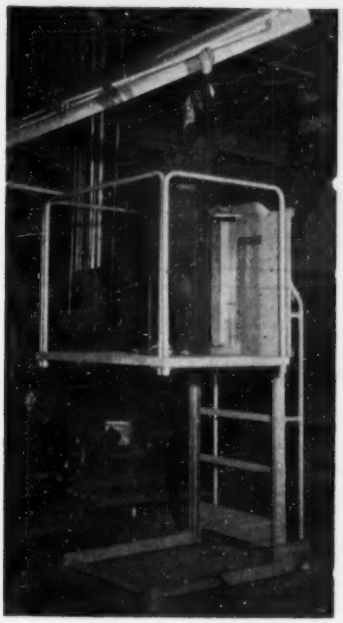
Strip Clean Instantly
Fit Any Sized Roll
Hug "Beat-Up" Rolls Tightly
No Seams—No Frayed Ends
Outlast Paper or Cloth Covers—3 times

Free Trial: Send us an old scavenger roll to be recovered. We will return it to you prepaid and let you be the judge.

We also make: Knit Dye Tubing; Sheepskin and Cloth Cleorers; Star Brand ★ Roller Varnish.

THE TEXTILE LABORATORIES
P. O. Box 1003 Telephone 5-2791 Gastonia, N. C.

A lifting unit on which a man may raise and lower himself with a hand crank for maintenance chores and for repairing tall machinery is called



"The Bootstrapper." Capacity 500 pounds; platform 36" x 60"; removable pipe railings.

Service Caster & Truck Corp., Somerville, Mass. (E-809).

The Model 4 line of Powermaster **packaged automatic boilers** with a standard pressure atomizing oil nozzle for firing light oil only has now been extended to include sizes up to 100 hp. Also available for other fuels.

Orr & Sembower, Inc., Morgantown Rd., Reading, Pa. (E-810).

A new line of **plastic hose and pipe** is chemically inert to highly corrosive liquids, light in weight, and resistant to high and low extremes of temperature. Designated "Fluoroflex"-T, the plastic products are made from DuPont's Teflon.

Resistoflex Corp., Belleville, N. J. (E-811).

Economical, small, portable, light weight, and easily installed **sound absorbing units** known as "Sonosorbers" are especially suited for noisy industrial and commercial locations where ordinary acoustical treatment is not applicable or adequate. About 24 inches long. Hang from ceiling.

Sonosorber Corp., 21 South 16th St., East Orange, N. J. (E-812).

Five new **Variac speed controls** have been announced: Type 1703-A 1/6 hp control; Type 1704-A 1 hp control; Type 1705-A 1½ hp control; Type 1701-AM 1/15 hp control with single speed range; and Type 1702-M ¾ hp control with remote station push button and speed control. Start motors slowly and smoothly.

General Radio Co., 275 Massachusetts Ave., Cambridge 39, Mass. (E-813).

A new **induction motor**—the Life Line-A—is designed to offer users longer motor life, greater flexibility in application, and higher reliability as well as decreased size. Produced in three enclosures: totally-enclosed fan cooled, totally enclosed non-ventilated, and drip-proof.

Westinghouse Electric Corp., Pittsburgh 30, Pa. (E-814).

Designed especially to simplify pallet loading in tight spaces, the **Safety Silhouette** is a new model fork lift truck. In operation the top of driver's head is always below top of masts and thus protected. 2000 and 3000 pound capacities.

Yale Materials Handling Div., Yale & Towne Mfg. Co., Philadelphia, Pa. (E-815).

A new type **tractor lift** allows hand-propelled floor trucks or semi-skids to be handled by power for long hauls, or when heavy loads are involved. Usually no modifications are necessary to truck itself. Tractor lift may be used to lift the legs of semi-skids off the floor instead of using the hand skid jack.

Market Forge Co., Everett, Mass. (E-816).

For providing accurate, adjustable time-delay opening and closing of electric contacts, a new line of **process timers,** designated G-E Type TRA-18, has been developed. Saves workmen's time, reduces waste material, and improves manufactured products in processes where time is a factor.

General Electric Co., Schenectady 5, N. Y. (E-817).

A new **magnetic contactor-type time delay speed controller** for all makes and models of electric industrial trucks is called the Yale Magnetic Cam-O-Matactor. It is designed to provide smooth acceleration under all operating conditions. Cushioned accelerator action, through the time delay, results in uniform contact action regardless of the operator's rate of speed in depressing the pedal.

Yale Materials Handling Div., The Yale & Towne Mfg. Co., Philadelphia, Pa. (E-818).

THE MILLER CO., *Meriden, Conn.*

THE TRUE CRITERION OF VALUE *in lighting fixtures is continuous dependable performance. For that, look to its source. Behind Miller fixtures—Fluorescent, Incandescent, and Mercury for industry, commerce and schools—are 110 years manufacturing know-how—1,000 combined man years of field lighting engineering—million-dollar production facilities.*

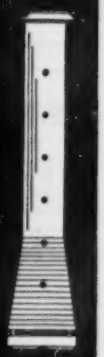
Best

★ FOR PERFORMANCE

★ FOR LONG LIFE

★ FOR HIGH SPEEDS

★ FOR PRICE



Vermont

SPOOLS AND BOBBINS SINCE 1906

234 S. CHAMPLAIN ST.

BURLINGTON, VT

CLASSIFIED ADS

BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

POSITIONS OPEN—We can place supt. hosiery dye. and fin. bleachery supt.; asst. supt. wide and nar. elastic fabrics. OVERSEERS for cotton piece goods finish.; cutting and sewing; pile fabric fin.; dyeing on cot. knit. fabrics. Second hand cot. weaving. Draper looms; industrial-time study engineers; mechanical engineers-master mechanics; salesmen and demonstrators (several); chemists and chem. engineers; cost accountant-trainee; knitting mach. fixers (several); cotton loom fixers for United States and foreign countries. If available for employment, REGISTER WITH US for attractive positions paying good salaries in the textile field. SEND US YOUR RESUME. It will be treated in strictest confidence. No charge unless position is accepted through our Service.

CHARLES P. RAYMOND SERVICE, INC.
294 Washington St., Phone: LIberty 2-6547, Boston 8, Mass.
OVER 55 YEARS IN BUSINESS

WANTED

Head printer. Cotton goods. Must be thoroughly skilled and able to maintain uniform quality. Also be able to get along with southern people. Straight salary and good opportunity for right man. Address reply to Box 648, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Georgia.

WANTED

Textile school or chemical graduate with textile mill experience for development work in dyestuffs application. Should have general fiber knowledge especially of the newer synthetics. Reply to SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

MANUFACTURERS REPRESENTATIVE SEEKING ADDITIONAL LINES OF EQUIPMENT FOR HOSIERY MILLS, THROWING PLANTS AND DYEING. EXPERIENCED. GOOD FOLLOWING. NORTH CAROLINA, SOUTH CAROLINA AND GEORGIA. Reply to box 649, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

WANTED

POSITION AS SUPERINTENDENT OR MANAGER OF TEXTILE PLANT. FIFTEEN YEARS EXPERIENCE AS SUPERINTENDENT AND MANAGER. NOW EMPLOYED AS GENERAL SUPERINTENDENT YARN MILL WITH SMALL WEAVING UNIT. EXPERIENCED ON KNITTING AND WEAVING YARNS OF VARIOUS COTTONS AND RAYONS. PRODUCER AND GOOD MANAGER OF LABOR. MARRIED, FAMILY, AGE 47, GOOD EDUCATION. Reply to Box 643, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

FOR SALE

Double Spider Fidelity Skein Reels, M. D.

Single Spider Fidelity Skein Reels, M. D.

60" J. E. Windle No. 2 Doubling & Boarding Machine, M. D.

Foster Model 101 Cone Winder with two motors.

Laboratory Reels, Scales, and Testers.

STANDARD MILL SUPPLY COMPANY

1064-1080 Main St. Pawtucket, R. I.

ENGINEERS-CHEMISTS

CELANESE

Leading producer of chemical yarns and fibres has expanding opportunities for technical personnel with education and experience in:

- Textile
- Chemical
- Mechanical
- Industrial

} Engineering

- Chemistry
- Quality Control
- Accounting
- Administration

} Plant Production, Production Control, Plant Administration

At the following plant locations:

- Cumberland, Md.
- Rock Hill, S. C.
- Rome, Ga.
- Burlington, N. C.
- Narrows, Va.

Send complete resume indicating position and location desired to:

Personnel, Dept. D

CELANESE CORP. OF AMERICA

180 Madison Ave., New York 16, N. Y.

GUARANTEED USED BOBBINS

You pay only for bobbins you accept as in good usable condition. Send us samples of what you need. Large stock of spinning bobbins, quills, skewers, twisters, etc.

CHARLES G. STOVER COMPANY
West Point, Ga.

POSITION WANTED

Overseer of cotton spinning or twisting with over twenty-five years experience on a wide range of numbers, wishes to make a change. Married, sober and good manager of help. Reply to Box 647, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Georgia.

WE BUY AND SELL
TEXTILE MACHINERY
THROUGHOUT THE WORLD!
GEORGE W. EGAN
"The Machinery Man Known Everywhere"
WOONSOCKET, R. I. — Phone Woon 3258

TIME STUDY ENGINEER AVAILABLE. THOROUGHLY EXPERIENCED. CAPABLE. GOOD BACKGROUND. EXCELLENT REFERENCES. Reply to Box 644, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

FOR SALE

MICRONAIRE MODEL 60603. SERIAL A-5191. Write National Worsted Mills, Inc., Jamestown, New York.

WANTED

MANUFACTURER'S AGENT WITH GOOD FOLLOWING WANTS TEXTILE SUPPLY LINE OR LINES. GUARANTEES EXCELLENT NON-COMPETITIVE COVERAGE OF CAROLINAS AND VIRGINIA. Reply to Box 645, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

WANTED BY OLD ESTABLISHED FIRM—RESEARCH DYE CHEMIST. STATE FULL QUALIFICATIONS. Reply to Box 650, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

BRASS **PIN-PLATES** All Sizes

PUT YOUR PIN TENTERS IN TIP-TOP CONDITION
SEND US OLD PLATE FOR QUOTATION
All Diameters Any Length

SOUTHERN TEXTILE WORKS
ANDERSON, S. C.

FOR SALE
WOOD BEAMS

We have available for sale at a very modest price 410 wood beams, each 54¼" long with 28" flanges and 12" barrel. These beams are in good condition and are suited for a wide variety of applications. Will sell all or part. Reply to box 646, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Georgia.

WANTED

CALLENDER SUITABLE FOR FINISHING WOVEN SARAN. 80" FACE, 3 ROLLS (2 HEATED, 1 HUSK), PRESSURE TO 30/60 TONS. Reply to Box 638, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Georgia.

Industrial Engineers

SPECIALIZING IN TEXTILES For OVER ONE-THIRD OF A CENTURY

COST SYSTEMS
PAY ROLL CONTROLS
SPECIAL REPORTS
WORK-LOAD STUDIES
COST REDUCTION REPORTS

Ralph E. Loper Co. GREENVILLE, S. C. Tel. 2-3868
FALL RIVER, MASS. Tel. 6-8261

IT'S PURE LOGIC . . .

In modern times, when the success or failure of a mill depends so heavily on its technical knowhow, a mill man can't afford to overlook any source of information that may help him make his operation more efficient.

And TEXTILE INDUSTRIES is one of the best. It has been known for 54 years as the production and management magazine of the industry. So read your copy of Textile Industries to keep up with the latest technical advances . . . it's pure logic!

(See premium offer on page 33)

TEXTILE INDUSTRIES

806 PEACHTREE ST.

ATLANTA, GA.

EIGHTEENTH SOUTHERN TEXTILE EXPOSITION

OCTOBER 4-8, 1954

Textile Hall

Greenville, S. C.

See on exhibit the latest developments in

MACHINERY
EQUIPMENT
ACCESSORIES
SUPPLIES
TECHNIQUES

Room reservations should be made in advance to

TEXTILE HALL CORPORATION

Greenville, S. C.

"An institution of the Textile Industry since 1915"

ADVERTISER'S INDEX

A

Abbott Machine Co. ..... *
Abington Textile Mchy. Works 147
Advertising Council, Inc. ..... *
Aldrich Machine Works 43
Alemite Division 61
Allis Company, Louis ..... *
Allis-Chalmers Mfg. Co. 31
Althouse Chemical Co. 29
Aluminum Co. of America 36
Alvey Conveyor Mfg. Co. ..... *
American Air Filter Co. ..... *
American Aniline Products, Inc. 73
American Associated Consultants, Inc. ..165
American Cyanamid Co. (Organic Chemicals Div.) 35
American Lava Corp. 65
American Moistening Co. 7
American Monorail Co., Inc. 122
American Paper Tube Co. ..... *
American Red Cross ..... *
American Steel & Wire Co. ..... *
Arkansas Company, Inc. ..... *
Armstrong Cork Co. 22, 23
Arrow-Hart & Hegeman Co. 19
Ashworth Bros. Inc. 131, 132, 133, 134
Askania Regulator Co. 146
Atkinson Haserick & Co. ..... *
Atlanta Belting Co. ..... *
Atlanta Paper Co. 18
Atlantic Steel Co. 42
Aurora Pump Co. 170

B

Bachmann Uxbridge Worsted Corp. ..... *
Bahnson Co. ..... *
Barber-Colman (Textile Div.) 82
Barber-Colman Co., (Automatic Controls Div.) ..... *
Berkshire Color & Chemical Co. ..... *
Best & Co., Edward H. ..... *
Bick, Inc., Hans C. ..... *
Bijur Lubricating Co. ..... *
Binney & Smith, Inc. 170
Birch Brothers, Inc. ..... *
Blickman, Inc., S. ..... *
Booth Co., Benjamin ..... *
Buffalo Electro-Chemical Co., Inc. 2
Buffalo Forge Co. ..... *
Buffalo Pumps, Inc. 86
Butterworth & Sons, Inc., W. H. ..... *

C

Carbic-Moss Corp. 148
Carrier Corporation 80
Carter, Inc., A. B. ..... *
Celanese Corp. of America & Subsidiary Cos. ..... *
Cen-Tennial Cotton Gin Co. 74
Chrysler Corp., Amplex Div. ..... *
Ciba Co., Inc. 54, 55
Classified Ads 196, 197
Clayton Co., J. M. ..... *
Cleveland Crane & Engineering Co. 58
Clinton Foods Inc. 159
Cocker Mach. & Fdry. Co. 76
Cole Co., R. D. 176
Coleman Company, Inc. 176
Colson Corporation 185
Columbia-Geneva Steel ..... *
Comer-Avondale Mills, Inc. 190
Comer Machinery Co. 40
Commercial Factors Corp. ..... *
Continental-Diamond Fibre Co. 72
Continental Gin Company 200
Corn Products Sales Co. 144
Courtaulds, Inc. ..... *
Crabb & Co., Wm. ..... *
Crompton & Knowles Loom Works 11
Crompton-Richmond Co., Inc., ...161
Crossett Chemical Co. ..... *
Curlator Corp. (Textile Div.) ..... *
Curtis & Marble Machine Co. 173
Cutler-Hammer, Inc. ..... *

D

Darnell Corp., Ltd. ..... *
Dary Ring Traveler Co. ..... .156
Dayton Rubber Mfg. Co. 14, 15
Dexter Chemical Corp. 60
Diehl Mfg. Co. .....Second Cover
Dinkler Hotels 193
Dixie Leather Corp. ..... *
Dodge Mfg. Corp. ..... *
Dommerich & Co., L. F. 163
Dow Chemical Company ..... *
Draper Corporation 1, 78
Dronsfield Bros. Ltd. 158
Du Pont de Nemours & Co., Inc., E. I. (Dyestuff Div.) ..... *
Du Pont de Nemours & Co., Inc., E. I. (Electrochemicals Dept.) 45, 69
Du Pont de Nemours & Co., Inc., E. I. (Finishes Div.) 21

E

Economy Baler Co. ..... *
Emery Industries, Inc. 34
Engineered Plastics, Inc. ..... *
Eriez Mfg. Co. ..... *
Exact Weight Scale Co. ..... *

F

Felters Co., Inc. 6
Ferguson Gear Co. 176
Fiber Controls Corporation ..... *
Fidelity Machine Co. ..... *
Fielden Instrument Division ..... *
Finnell Systems, Inc. ..... *
Fisher Mfg. Company 154
Fletcher Works ..... *
Foster Machine Co. 25
Foxboro Company 50
Franklin Process Co. 17

G

Gaston County Dyeing Machine Co. 157
Gastonia Brush Co. ..... *
Gastonia Roller, Flyer & Spindle Co. ..... * *
Gastonia Textile Sheet Metal Works ...178
Gates Rubber Co. ..... *
Gaylord Container Corp. 44
General Dyestuff Corp. ..... *
General Dyestuff Corp. (Antara Div.) .. 9
General Electric Co. 140, 141
General Radio Co. ..... *
Goodyear Tire & Rubber Co., Inc. Chemical Prod. ..... *
Graphite Metallizing Corp. 183
Graton & Knight Co. ..... *
Gulf Oil Corp. 5

H

Hart Products Corp. 52
Haskell-Dawes Machine Co. 181
Hayes Industries, Inc. ..... *
Hayssen Mfg. Company ..... *
Heany Industrial Ceramic Corp. 130
Herr Mfg. Company 71
Holt Hardwood Co. ..... *
Hood Co., R. H. ..... *
Holyoke Machine Co. 64
Houghton & Co., Inc., E. F. ..... *
Howard Bros., Mfg. Co. 126
Hubinger Co. ..... *
Hunt Loom & Machine Works, Inc. .... *
Hunt Machine Co., Rodney ..... *
Hunter Machine Co., James ..... *
Hyatt Bearing Division 68
Hyster Company ..... *

I

Ideal Industries, Inc. ..... *
Ideal Mach. Shops ..... *
Industrial Heat Engineering Co. ..... *
Industrialaire Co. 184
International Salt Co., Inc. 160

J

Jacobs Northern Div., E. H. ..... *
Jenkins Metal Shops, Inc. ..... *
Jenkins Reneedling Co., Inc. 192
Jenkins' Sons, Inc., M. W. 8
Johnson Bronze Co. ..... *
Johnson Corp. 173
Johnsor Machine Works, Chas. B. 178
Johnson Service Co. ..... *

K

Keever Starch Co. 138
Kidde & Co., Inc., Walter 46

ADVERTISER'S INDEX

L

Lane & Bros. Inc., W. T. ..... *
Lanolized, Inc. 16
Laurel Soap Mfg. Co. ..... *
Lazenby & Co., F. A. 190
Lee Co., L. A. 192
Lestershire Spool & Mfg. Co. ..... *
Link-Belt Co. ..... *
Livermore Corp., H. F. ..... *
Lockwood Greene Engineers ..... *
Logan Co. 38
Logemann Brothers Co. ..... *
Loper Co., Ralph E. 197
Louden Machinery Co. 41

M

Maple Flooring Mfrs. Assn. ..... *
Marquette Metal Products Co. 70
Marshall & Williams Corp. ..... *
Mason-Neilan Regulator Co. ..... *
McBurney Stoker & Equip. Co. 187
McCreary Machine Works ..... *
McKiernan-Terry Corp. ..... *
Meadows Mfg. Co. ..... *
Merrow Machine Co. ..... *
Miller Co., The 195
Miller Fluid Power Co. ..... *
Milton Machine Works 192
Minneapolis-Honeywell Regulator Co. .. *
Momar, Inc. 172
Monsanto Chemical Co. 39
Monticello Bobbin Co. ..... *
Morrison Machine Co. ..... *
Morton Machine Works ..... *
Mt. Hope Machinery Co. ..... *
Muller, Messrs. Franz 13

N

Naugatuck Chemicals Div. 27
National Business Publications, Inc. .... *
National Ring Traveler Co. ..... *
National Tube Co. ..... *
New Departure Div. 124
New England Bobbin & Shuttle Co. .... *
New York & New Jersey Lubricant Co. .. 12
Nopco Chemical Co. ..... *
North, Inc., Frank G. 24

O

Oakite Products, Inc. 188
Ohio Gear Company 188

P

Parks-Cramer Co. ..... *
Patterson-Kelly Co., Inc. ..... *
Penick & Ford, Ltd., Co. 162
Perfecting Service Company ..... *
Perkins & Sons, Inc., B. F. ..... *
Pfister Chemical Works 130
Pick Mfg. Co. ..... *
Pittsburgh Corning Corp. 51
Platt Freres, J. W. & H. ..... *
Pneumafil Corporation ..... *
Potts Co., Horace T. ..... *
Powell Valves ..... *
Precision Gear & Mach. Co. ..... *
Proctor & Gamble Distributing Co. 66
Proctor & Schwartz, Inc. 28
Pure Oil Company 47

R

Red-Ray Mfg. Co. 190
Reeves Pulley Co. ..... *
Reiner, Inc., Robert ..... *
Reliance Electric & Eng. Co. ..... *
Rhoads & Sons, J. E. 53
Richards-Wilcox Mfg. Co. 30
Ridge Tool Co. 10
Riggs & Lombard, Inc. ..... *
Robbins & Myers, Inc. 155
Robert & Co., Associates, Inc. ..Front Cover
Rohm & Haas Co. 63
Ross Engr. Corp., J. O. ..... *
Roy & Son Co., B. S. ..... *
Royce Chemical Co. .....Fourth Cover
Russell Mfg. Co. ..... *

S

Saco-Lowell Shops 142
Sandoz Chemical Works 49
Sanforized Division—
Cluett Peabody & Co., Inc. ..... *
Sarco Company, Inc. ..... *
Sargents Sons Corp., C. G. 171
Scherr Co., Inc., Geo. ..... *
Scholler Bros., Inc. 16
Seydel-Woolley & Co. ..... *
Simco Company ..... *
Sims Sheet Metal Works 160
Sinclair Refining Co., Inc. ..... *
Sirrine & Co., J. E. ..... *
SKF Industries, Inc. 88
Smith, Drum & Company ..... *
Solvay Process Division, The Allied
Chemical & Dye Corp. ..... *
Sonoco Products Co. 59
Southern Mill Supply Co. ..... *
Southern Shuttles Div. 67
Southern States Equip. Corp. 56
Specialty Distributing Company 172
Specialty Hardwood Co. ..... *
Staley Mfg. Co., A. 57
Standard Brands, Inc. ..... *
Standard Chemical Products, Inc. 128
Standard Oil Company, Inc. 62
Standard Pressed Steel Co. 194
Steel Heddle Mfg. Co. 67
Stewart-Warner Corp. 61
Sturtevant Division, B. F.
(Westinghouse Elec. Corp.) 136
Sun Oil Co. ..... *
Superior Tube Co. ..... *
Supreme Knitting Machine Co. ..... *
Synthane Corp. ..... *

T

Talcott, Inc., James 169
Taylor-Styles & Co. ..... *
Tennant Co., G. H. ..... *
Tennessee Coal, Iron and Railroad Co. .. *
Tennessee Corp. 156
Terrell Co. ..... *
Texas Co. ..... *
Textile Apron Co. 194
Textile Hall Corporation 197
Textile Industries 33, 197
Textile Laboratories 194
Textile Machine Works 90
Textile Paper Products, Inc. 4
Textile Shield Co., Inc. 164
Textile Shops ..... *
Thomaston Mills ..... *
Toledo Scale Co. ..... *
Ton-Tex Corp. ..... *
Tool Service Engineering Co. 186
Torrington Co. (Needle Bearings) ..... *
Tower Iron Works 20
Treasury Department ..... *
Trico Fuse Co. 186
Trust Company of Georgia 182
Tull Metal & Supply Co., J. M. ..... *
Turbo Machine Co. ..... *

U

Union Special Machine Co. ..... *
U. S. Ring Traveler Co. ..... *
U. S. Steel Corp. ..... *
U. S. Textile Mach. Co. 191
United Elastic Corporation ..... *
United States Rubber Co.
(Naugatuck Chemicals Div.) 27
Universal Winding Co. ..... *
Uster Corporation ..... *

V

Van Vlaanderen Co. ..... *
Veeder Root, Inc. .....Third Cover
Vermont Spool & Bobbin Co. 195
Vickers, Inc. ..... *
Victor Ring Traveler Co. ..... *

W

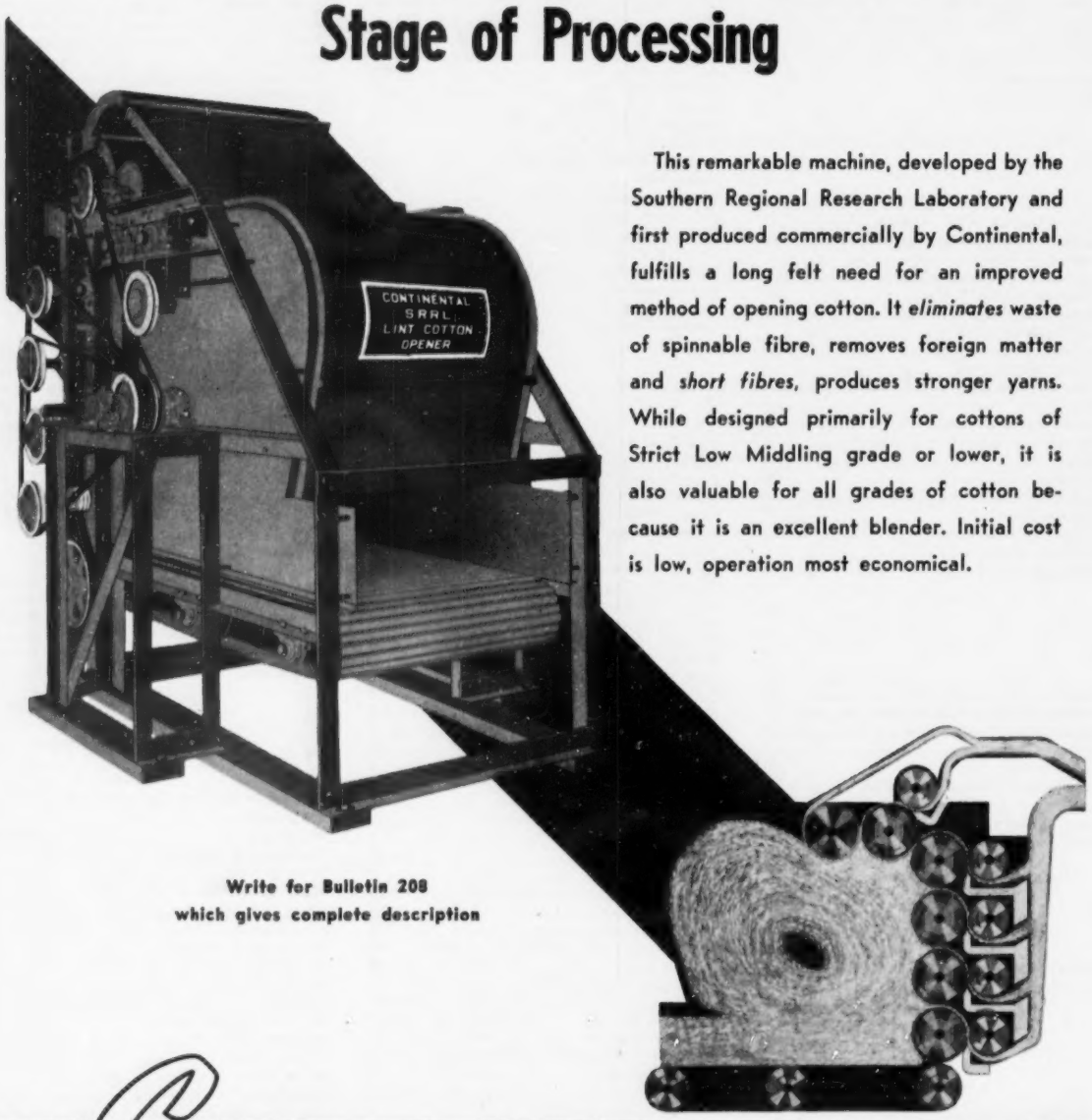
Wakefield Bearing Corp. ..... *
Wallerstein Co., Inc. ..... *
Want Ads 196, 197
Warner & Swasey Co. ..... *
Watson-Williams Mfg. Co. ..... *
West Point Fdy. & Mach. Co. 166
West Side Foundry Co. ..... *
Westinghouse Electric Corp. ..150, 151, 152
White and Company 26
Whitehead Engineering Co. 193
Whitin Machine Works 37,48
Whitinsville Spinning Ring Co. 174
Wicaco Machine Corp. 184
Wildman Mfg. Co. ..... *
Willco Products Co. ..... *
Wolf & Co., Jacques 84
Wonalancet Company 174
Wood's Sons Co., T. B. 189

Y

Young Aniline Works ..... *

CONTINENTAL'S SRRL LINT COTTON OPENER

Saves Spinnable Fibre by Thorough Opening of Cotton at First Stage of Processing



This remarkable machine, developed by the Southern Regional Research Laboratory and first produced commercially by Continental, fulfills a long felt need for an improved method of opening cotton. It *eliminates* waste of spinnable fibre, removes foreign matter and *short fibres*, produces stronger yarns. While designed primarily for cottons of Strict Low Middling grade or lower, it is also valuable for all grades of cotton because it is an excellent blender. Initial cost is low, operation most economical.

Write for Bulletin 208
which gives complete description

Continental GIN COMPANY

BIRMINGHAM, ALABAMA

ATLANTA • DALLAS • MEMPHIS

New! VARY-TALLY

Multiple-Unit Reset Counter

DESIGNED TO COUNT ANYTHING COUNTABLE

this new Vary-Tally can be supplied in any combination up to 6 banks high, 12 units wide, with the counting units arranged compactly on stands in tiers. Now check these special features of Veeder-Root design and construction:

- Easily Readable from any Angle . . . Bold Figures Always Centered in Window . . . No Glare . . . Figures not Covered by Fingers in Operation
- Easily Portable, yet Ruggedly Built for Long Wear
- Separate Counting Units Can be Rotated like Tires on a Car, to Distribute Wear Evenly
- All Parts Corrosion-Resistant
- Working Parts of Hardened Steel
- Operation Not Affected by Extreme Heat or Cold
- Individual Tag Above Each Counter-Window — Not Strip Tabs
- Veeder-Root Quality in Every Part

Now what's on *your* mind, that Vary-Tally can help you count? Write for news sheet and prices.

"The Name that Counts"

VEEDER-ROOT INC.

GREENVILLE, SOUTH CAROLINA
Box 297, Tel. Greenville 3-1371

HARTFORD 2, CONNECTICUT
Tel. Hartford 7-7201

Everyone has different ideas
...about desizing agents

POWDERED?
LIQUID?
POWDERED HIGH TEMPERATURE?
CONCENTRATE?
LIQUID CONCENTRATE?
No matter what your preference, you're sure to find your choice, for the best desizing agents are NEOZYMES by Royce.

You buy the best when you specify a desizing agent by Royce—guaranteed controlled quality. Rigid laboratory control eliminates costly reprocessing caused by use of non-uniform products. And behind all Royce products stands the Royce Technical Service, backed by years of practical textile experience. Desizing problems? Let Royce solve them for you. Write for additional information and data sheets.

NEOZYME®: a rapid-acting, water-soluble white powder for heat-saving low temperature desizing at 120° to 125°F. Outstanding money value . . . 1 pound equals 8 pounds of liquid enzyme—*cuts your storage space 87½%.*

NEOZYME HT: a concentrated white powder for high speed desizing at high temperatures. Completely water soluble. Needs no salt for activation. Retains potency *longer* than other enzymatic desizers.

NEOZYME L: a standardized, double-strength starch desizer. A fast-acting liquid of proven superior heat stability at 160°F.—better than other liquid commercial enzymes.

NEOZYME L Conc.: a concentrated high-quality starch liquefying enzyme of exceptional heat stability at 160°F. Economical—saves in handling and storage.

Royce

ROYCE CHEMICAL CO.

CHEMICAL COMPANY • CARLTON HILL, NEW JERSEY

Manufacturers of Chemicals for the Textile Industry

7910